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*Churches near Stamford, and along the Nene.**

THE book containing an account of the churches visited in the first excursion of the Architectural Association in 1870, under the guidance of Mr. Sharpe, was shown in a complete form to the 1871 excursion party, just as the second excursion was commencing at Ely, and was noticed, with appreciation of its value, in the *Builder* (vol. xxix., pp. 619 and 738). In it Mr. Sharpe aimed at giving a complete account of the architecture of Lincoln Cathedral, of three churches at Lincoln; of thirteen churches on the Cliff road, leading southwards from Lincoln towards Grantham; of fourteen churches at and to the south and east of Sleaford; and of eight churches at Spalding, and between Spalding and the Wash. Caythorpe, on the Cliff road, the remarkable double-naved church, with central tower and "sugar-loaved" spire, is only about eight miles from Sleaford; and although there is a gap of some ten miles between Billingborough and Spalding, it is a gap of wide fen not containing old villages. The book is thus an analysis of the church architecture at Lincoln, and between that cathedral city and the south-east of the county,—not along the direct route between the two points, but along such a route as a pedestrian, or a traveller by railway now-a-days, would do well to follow, as he would find much more to reward him in his journeyings than in traversing the shorter high-roads. Each building is taken to pieces and its architecture described, beginning at the earliest work, and passing on to the latest of good character. One uniform system is followed right through. In over forty pages of summary good use is made once again of the sixty illustrations,—and a short general sketch of the features of Mediæval architecture produced. There are deficiencies of course, although the district is rich in good work of many dates; and it is not a book for beginners, being addressed in the main throughout to students who have received their initiation. The illustrations give views of towers and spires, of the exteriors and interiors of buildings, and parts of buildings, and an assortment of details. The record and the illustrations,—gleaned in part from the sketch-books of the excursionists placed at Mr. Sharpe's disposal for the purpose,—will always keep the first of the excursions in memory, and call to mind a scheme which gladdened the leader and some of the members when they thought about it. It was proposed to make a book each year,—"each one to form part of a series, constituting a very complete illustration of Mediæval art as practised in the churches of this country, from the Heptarchy to the Reformation."

This scheme remains a counsel of perfection, never likely to be practically realised. It was never dropped during Mr. Sharpe's lifetime, although it was not carried through. There is little likelihood of its being carried through now, on anything like the scale first talked about. Some one with ample knowledge, a good deal of steady enthusiasm, of leisure, and of money to spare, would be required to bear the burdensome parts of the work. Still, it has borne some fruit. "The Churches of the Nene Valley," which is a memorial of the third excursion,—1872,—is now before us. Some other works connected with the excursions will see the light some day. "The Ornamentation of the Transitional Period in the North and in the West of France" was nearly ready for publication when Mr. Sharpe died at Milan, in May, 1877. The materials for it were, to a large extent, got together during the first French excursion. The book on "Charente" is being pressed forward by a committee of the Architectural Association as a "Sharpe Memorial." In a month or two it will be complete, and will be at once a record of the remarkable excursion, in 1875, to Angoulême and the Département of which it is the chief city, and a permanent proof of the affectionate esteem felt for a man who was also deservedly honoured.

The 1872 excursion commenced at Stamford on Monday, the 19th of August, and terminated on Saturday, the 24th of August:—that good servant of the profession and the Association, Mr. J. Douglass Mathews, was the president for the year. The Nene Valley book is not an account of that excursion in the same way that the Lincoln book is of the 1870 excursion; but it contains, nevertheless, 112 plates of imperial quarto size (14¾ in. × 10½ in.), dealing with parts of forty-six buildings. Northborough, near Market Deeping, supplies six plates; the noble church of St. James, Deeping, a quadruple plate and four others. From Polebrook Church,—about a mile from the Nene and three miles east of Oundle, a church little illustrated aforetime,—is derived material for nine plates. Of these plate 12 is a good example of clean spirited drawing of Transitional capitals, and Plate 83 an admirable drawing of the exquisite wall-arcade with north transept. More frequently, however, one or two plates only are devoted to a building.

Stamford has never been, and is never likely to be, in the valley of the Nene,—having its own Welland pleasantly disposed on the south of the hillside which contains the most notable of the fine churches; and in the flat land to the eastwards, the Deepings, Northborough, and their neighbours hang about the line of the Welland. The name bestowed upon the book has probably been given, as names are given to men, horses, and houses, not to express qualities, but to distinguish it from all others. Two-fifths of the illustrations, and nearly the same proportion of the buildings illustrated, belong to the Welland Valley; but to have introduced the Welland into the title would not have conduced to brevity nor to precision, for the Welland Valley extends a good way along the north boundary of Northants, and Market Harborough is near upon twenty-five miles west of the Stamford churches illustrated in these plates. After all, about six miles in a crow's flight is all the distance from Wansford (where the Nene finds an outlet to the eastward, and turns off towards Peterborough and the sea) to Stamford, which is the southernmost point in the course of the Welland, whence it runs to Spalding and on to Fossdyke Wash. Barring the ironstone which has tinged the buildings of the Nene Valley with a constructive polychromy from Ringstead southwards, the building materials are much the same throughout the whole district illustrated. In times when the carriage of materials was very hard work, it had considerable influence in cutting districts apart pretty sharply, or making them resemble each other, as the case might be.

The use of the brown ironstone is shown by etching on plate 46 (Ringstead, north ground-story), the darker stone being used in a rather irregular way,—a manner full of freaks. At Finedon (plates 51, 52, 53, and 54), it is introduced a little more regularly, but not on any regular system even there.

Begun in 1872 and published in 1881,—the Horatian instruction, "*nonum prematur in annum*," may well have been acted upon with reference to many of the drawings. Six hundred sketches and forty measured longitudinal elevations were produced during the excursion, and these formed the basis of the work, which has been, however, all brought into existence solely by Mr. J. Johnson and Mr. A. H. Kersey, two of the excursionists. They took the sketches and drawings, and used them as far as possible went over the ground again, paying more than one visit to some of the buildings, lithographed the drawings themselves, and proved them,—no lithographer's draughtsman working on any of the drawings. Transfer-lithography has been used almost exclusively for the plates. Mr. C. F. Kell has done his part in the lithography very well, and the general appearance of the volume reflects credit upon him. All the drawings have now been cleaned off the stones. Mr. Sharpe had intended to write a very complete text for the volume; but at his death he had not advanced very far with the work. What he left has been published without any great amount of addition. However pleasant its general scheme and an occasional sign of promise may be, the text is not very satisfactory as a whole. It is much

* The Churches of the Nene Valley, Northamptonshire. By John Johnson and A. H. Kersey, Architects. The text by the late Edmund Sharpe, M.A. London: Batsford, 52, High Holborn. 1880.

too slightly laboured in parts. There is no list of illustrations of the district which have been published heretofore;—a list of this kind should be looked upon as absolutely necessary,—as indispensable as a title-page and an index in a work of this kind. A description of the way in which the drawings have been completed shows that in them painstaking has not been spread. "Nearly every stone [of the masonry] shown has been measured; and, with very few exceptions, every drawing has been taken to the spot, carefully compared with the actual work, and the dimensions verified. The whole of the mouldings were most carefully measured as well as cymagraphed, and their sections drawn out full size; these have been reduced to their respective scales by means of the pantograph." Not a little ingenuity has been expended in packing information very tightly into the plates; sections of mouldings and other similar grouting leave very little blank paper on any page. Sometimes, in truth, one would part with a detail or two,—albeit with regret,—in order to get a better impression of the general proportions of an arcade. It is, of course, impossible to be ungracious towards a failing so evidently leaning towards virtue's side; there are little bits of fruit of extra study dropped in here and there, which show how much a man's heart has been in his work. A specimen plate (No. 8) has been reproduced, slightly reduced by photolithography, for this number. Warmington Church, near Oundle, is probably better known by its doorways and its Early English western tower and spire than by this arcade, which is, however, a handsome piece of Transitional work, with details of about 1170, —that is, in the middle of the period.

Part I. is the very special part of the book, consisting of sixty plates, devoted continuously to one subject. They are a set of parallel examples of main interior walls and arches, that is, practically of longitudinal sections, of churches, extending through all the periods of English Mediæval architecture. The whole of a long arcade, drawn to a scale of 8 ft. to an inch, is supplemented by a single arch to a scale of 4 ft. to an inch. The uniformity of scale is admirable throughout. In each case there is a plan of the arcade, and generally sections,—all to the same scale. Plans at the springings of arches looking down on the caps, and plans of responds (1 in. = 1 ft.); cap and base mouldings (one-sixth real size), and sketches of all stops and carved work, complete the illustration in each case. There are in all forty-five of these ground-stories, ranging from St. Leonard's, Stamford, and (in plate 1) the beautiful Late Norman work of St. Peter's, Northampton, to the Perpendicular of Lowick (plate 60). It happens that the district is not so rich in pure Norman work, or in the later styles, as in the work carried out between the middle of the twelfth and the beginning of the fourteenth century. Put roughly, one-fourth of the plates in the whole book may be said to be devoted to what, in Mr. Sharpe's nomenclature, is known as Transitional work,—1145-1190; one-fourth to Lancet work, 1190-1245; and one-fourth Geometrical, 1245-1315. The other fourth of the plates deals with the work before the earliest and after the latest of those dates. The nave arcades,—always excepting St. James, Deeping, which is 94 ft. in length, and has seven arches,—belong to parish churches of moderate size, and are frequently under 20 ft. in height and 12 ft. in span of arch, and only three bays in length. Many of these small works are, however, of remarkable beauty. St. Peter's, Northampton, for Late Norman (plates 1 and 2); Barnack (plates 9 and 10) for Middle Transitional, about 1175; St. Leonard's, Stamford (plates 65, 66, and 67), for Late Transitional; Polebrook (plate 30), for Early Lancet, about 1195; the south ground-story of All Saints, Stamford (plates 32, 33, and 34), for Middle Lancet, about 1220; and the chancel of the same church (plate 35) for Late Lancet, about 1240; may be selected, as a rare series, out of the rest. They would be remarkable anywhere.

The parallels and contrasts, supplied by work of different date in the same buildings, are curiously interesting. Thus plates 11 and 12 show the north ground-story of Polebrook, dating about the middle of the Transitional period; and plate 30 shows the south ground-story, dating just at the turn to Lancet, and mentioned above as a work of great beauty. There are plenty of points of difference between these two sides of this church,—one executed about twenty years after the other,—and there is a similarity as well, due to the instinct of a genuine architect, who improved as much as he could upon the general design, which custom would not allow him to copy line for line, all the while keeping near enough to it to serve the general effect.

The north ground-story at Barnack (plates 9 and 10) is not separated by more than about ten years from the south ground-story (plates 18 and 19). The main dimensions, the height and span of the arches, are within a foot of each other, the earlier work having, curiously enough, the wider spans and slightly lighter piers, the later being clustered piers, and the earlier a simple circular column. In both cases the arches are semicircular. Mr. Sharpe's remarks on some of the details are in his most felicitous style. The sight of so much good work, only partly "battered into shape and use," gives freshness to the regret felt for so many reasons for his loss. Delicate discrimination "by decades," as his well-loved phrase ran, appears in this piece of text:—

"On comparing plate 19 with plate 10, we notice,—that the zig-zag has entirely disappeared in the pier arches, the elegance of plan of the clustered pier, and the banding of the shafts, and the advance made in the increasing richness and rounded forms of the mouldings of the pier-arch. We notice, above all, the increased relief and nascent freedom of the conventional foliage, which has already begun to grow, as it were, out of the neck of the capital; the stems generally inclined one way, so as to follow one another round the capital, being prolonged into the deeply-relieved central rib."

By means of these parallels,—similarities and contrasts,—the essence of the book is seized at its best. Aldwincle St. Peter's (7, north, and 22, south, ground-story), work of three different periods; Helpstone (23, north, and 24, south, ground-story), simple Early Lancet work of very nearly the same date; Market Deeping (15, north, Transitional, and 37, south, Geometrical) supply further instances. In twenty-three plates (20 to 29, and 36 to 48) arcades, bearing a great resemblance to each other, stretch from the end of the twelfth to the beginning of the fourteenth century, and are all of about the same size, and with about the same amount of elaboration, that is, they are parts of the architecture of small village churches,—all without any pretension, but mainly excellent in their kind. The arches are simply splayed, not moulded, and a mask, a head, or a knot of foliage at the bottom of a hood-mould, or under a corbel, comprises all the carved work. Still each has its own expression; and, as they are examined in detail, the general similarity begins in a great measure to disappear,—in no two of them, for example, are the relative proportions of pier, arch, and intercolumniation the same, or the profile of the mouldings in capital and base alike.

Many of the problems which harassed our forefathers are apprehended as vividly as,—perhaps more vividly, if the imagination is not inactive, than,—in the buildings themselves. Fidelity meets with reward in the creation of this sort of thorough confidence in sceptical people,—to whom the plausible vice of "fudging" is only too well known by sad experience. With them confidence is of slow growth, but is not easily affected when it has taken good root. By turning over these leaves, and giving to them sustained attention, one may, for instance, watch in much comfort the workings of the minds of designers, striving through many years, in this district as elsewhere, to get rid of unoccupied areas on the tops of abaci, to prevent also the edges of capitals from being reached by some of the arch-mouldings, and to get over some of the other difficulties in adapting the form of arch to pier, and of pier to arch. We give in this number a plate of details from three churches, cut out from six of the plates in the volume, and fitted together.* Examples of changes to be found, after something like equal intervals, between the early part of the twelfth and the beginning of the fourteenth century, may thus be seen at a glance,—in respect of this point of the relation of pier and arch,—as also in respect of forms of arches, arrangement, and forms of moulding, and the carved ornamentation. The Norman square orders do not sit very awkwardly upon the caps of the large circular columns of St. Leonard's, Stamford (plates 5 and 6), for in effect a piece has been at each corner cut out of the square abacus and of the cushions below it. This method was imitated in the Transitional piers of the same arcade. Even over the octagonal cap of Warmington (plate 8) there are actual voids over portions of the piers, as also at Barnack (plate 10), &c. The piers, caps, and arch-moulds of All Saints', Stamford (plates 32, 33, and 34), show that in getting roomy springers to the arches, justifying the fine spread of the caps, the arch-mouldings run hard upon the edges of the abaci. The south ground-story of the chancel of the same church (plate 35) shows one more attempt to do more effectually above a circular column what the Norman architects were trying at more than a century before. Thereafter little change is seen through several plates,—where the arches have merely two orders of chamfers, and the columns below them are mostly circular, and bear circular capitals. Earls Barton (plate 49) comes in with an arch, in which the quadrate arrangement of the mouldings is almost lost. Abaci, of flat curves on plan, have little or no unoccupied space on the tops of them. Finedon (plate 54), about 1340, has a little further movement in the same direction. About 1400, flattened arch mouldings, descending upon four octagonal caps above a grouped pier, have come near to a workmanly perfection in Early Perpendicular. St. Martin's, Stamford (plate 58), gives this idea in a slightly later form; and at the end of the list of plates Fotheringhay (plate 59) has no longer caps on the south faces of the piers, but the outer orders of the arch-moulds descend and give their shape to those portions of the piers.

If time and space and the reader's patience permitted, these sixty plates would naturally supply the text for much further discourse. For instance, the plates might be followed right through, and the way in which those of each section are arranged in chronological series might be discussed. While assent would be given in the main, there might be a little grumble now and then; as, that plate 36 comes rather earlier, and plate 41 rather later than it ought to do; and should plate 7 stand where it does, when more than two-thirds of the work in it is of the Geometrical period?

Part II. contains plates 61 to 96; thirteen plates of doorways, some windows, sedilia, and other internal work; the general drawings always 2 ft. to an inch, and the mouldings quarter full size. Among the doorways the Transitional north porch at Castle Ashby, the delightful Geometrical south porch at Woodford, the west porch at Higham Ferrers, and the 1440 west door at Fotheringhay,—each very perfect in its kind,—would be plucked out by a Master Horner with well-practised and chronological thumb.

Part III. has seventeen perspective views, ranging from the Saxon tower of Earls Barton to the (plate 112) characteristic Perpendicular tower of St. John's, Stamford. This part contains several good drawings,—the Transitional Etton and Early English Raunds are the best. It does not, however, equal in interest the part of the volume which deals in measured drawings. The "Reliques of Ancient English Architecture" published many good years, and the Nene Valley book, have several subjects in common; and the drawings of John Johnson, F.S.A., have not unfrequently the advantage of those of his later namesake. The chalk lithographs by Alfred Newman would not, however, lend themselves so well to reproduction by photo-lithography as the Nene Valley series of three which we shall give in a future number.

This is not the first time that the *Builder* has gone over the ground round about Stamford and along the Nene. In volume xxx. (1872) will be found three notices (pp. 660, 680, and 699) written during this excursion, which possessors of this volume will consider useful, as subjects are dealt with in the notices which are not touched upon in the volume. The concluding words on page 700, with reference to measured details, may be quoted here. They have gained force in the years which have passed, since good "staying" power has been shown,—as well as the power of being in earnest for a week. "It was no mere tour of inspection. A good deal of material was collected that may be more or less available for illustrations of buildings or details not already published. For instance, all the measured details were obtained which will be required for accurately drawing out the nave arcade, including, of course, sections of mouldings, &c., of each church visited. This must be admitted to be a good week's work, and highly creditable to the character for industry and application of the members of the Architectural Association."

Mr. Johnson and Mr. Kersey are still connected with the Architectural Association and the annual excursions,—the eleventh had Norwich for its head-quarters in August last,—so that there is now something resembling a

* See pp. 798, 799.

fixed custom and tradition in these matters. The lessons learnt from the elder days of art have now been applied by each of these architects in modern buildings, and notices and drawings of them have found places in our pages. Some of the power to deal skilfully with the problems of the present has doubtless come slowly,—as, indeed, it comes to most of us,—during and as the reward of long labours, in which a capacity for taking great pains has been well exercised. We do not think more can be done for this honest piece of good work than to explain thus in detail its nature. All students of architecture should see that it is valuable, and why. The book will take rank as one of the best of our text-books, and may well serve as an example to be imitated occasionally by some one possessed of patience and skill. A person profoundly ignorant of the general features of the history, and of the technical details, of our national architecture, will not be able to make much use of it,—a fair amount of knowledge is necessary before it can be relished. That fair amount of knowledge would, of course, be acquired very soon if everybody would profit by being well-advised; but we are not sanguine enough to hope for such millennial signs. The young men of the architectural profession who have got through their first lessons may, however, be told expressly that they cannot do better than obtain "The Churches of the Nene Valley," follow through the history by the aid of the excellent geometrical drawings, and learn and practise for themselves in worthy actual buildings, the same method of analysis,—which has so evidently given to others nice perceptions and strong delight in excellent work.

THE RIGHT OF BUILDINGS TO SUPPORT FROM ADJACENT LAND AND PREMISES.

AFTER a long period of litigation commencing in the year 1876, the important case of Angus and Dalton has at length been decided by the House of Lords, as we mentioned in our last, and after the subject has been discussed in all the lower courts, and opinions, differing very considerably, have been delivered by most of the English judges, the public have at length a final decision, which once and for all has set the question at rest. To quote from the judgment of the Lord Chancellor, the main question at issue was "whether a right to lateral support from adjoining land can be acquired by twenty-seven years (or rather twenty years) uninterrupted enjoyment for a building proved to have been newly erected at the commencement of that time." It is quite unnecessary that we should point out the immense importance to the public, and to all who are professionally concerned with buildings, of this question; it is, perhaps, the most important decision, as regards buildings, which has been delivered for a great number of years. At the trial before Mr. Justice Lush the jury found a verdict for the plaintiff, who was the owner of the house which required support, and who had brought an action against the contractor who was working on the adjoining buildings, and against the Commissioners of Works and Public Buildings, who were the owners of these adjoining and supporting premises. The next step was the discussion of the question before the Queen's Bench Division, when the late Lord Chief Justice and Mr. Justice Mellor decided against the right which was claimed, and Mr. Justice Lush in favour of it. After that decision we made some remarks (in 1878) upon this subject as explained by the judgment of the Queen's Bench Division. The Court of Appeal, however, reversed this decision by a majority of two judges to one, the dissenter in this case being Lord Justice Brett. Finally it came before the House of Lords, where it was considered a question of such difficulty and importance that the Law Lords had the assistance of seven judges who delivered opinions upon the point and were about equally divided in their views. On the 14th instant the final stage was reached of this historic case, for such it will become in regard to English law when Lords Selborne (the Lord Chancellor), Coleridge, Blackburn, and Watson gave their judgment in favour of the original plaintiff, the person who asserted his right to have the support from the adjoining buildings. At the time when the first decision was given we were rather of opinion that the judgment of the Queen's Bench Division was right, and seeing the difficulty of the subject and the great diversity of judicial opinion upon it, we have no feeling of regret that our previous and necessarily cursory opinion has not been that of the final Court of Appeal. We also placed our views on record that the balance of convenience was inclined against such a right as that claimed, and we confess that we are a good deal of the same opinion still. Of course there are inconveniences whichever view may prevail, but the Lord Chancellor's reasons in favour of the convenience of the right to support do not seem to us very strong. There exists, he states, a power of resistance to the ripening of the right by interruption. "They can always be interrupted, and that without difficulty or inconvenience, when a man wishes and finds it for his own interest to make such a use of his own land as will have that effect. So long as it does not suit his purpose or his interest to do this, the law which allows a servitude to be established or enlarged by long and open enjoyment against one whose preponderating interest it has been to be passive during the whole time necessary for its acquisition, seems more reasonable and more consistent with public convenience and natural equity than one which would enable him at any distance of time to destroy the fruits of his neighbour's diligence, industry, and expenditure." But it appears that it is not so easy to interrupt an accruing right of this character as it is, for example, to prevent the acquisition of a right of way or of a right of light. A window can have a screen placed in front of it, and a pathway can have a barrier put across it so that the enjoyment of both easements is prevented. But once a building is erected, and has begun to acquire a right to support, the only way to prevent the right from accruing clearly is by letting down the building. Suppose that the owner of the adjoining premises, if he asks the owner of the new building to admit that he has only a right to support as long as the former is willing to allow it, gets a refusal, obviously his only course is to excavate his land or pull down his own wall, as the case may be. And we confess that it appears to us very doubtful if owners of supporting property can be expected to bear in mind that they must take such stringent measures to prevent burdens of a serious kind from attaching to their land,—burdens, too, which may sometimes prevent them from even employing it as they desire. "There are some things," said the Lord Chancellor, "of which all men ought to be presumed to have knowledge, and among them, I think, is the fact that, according to the laws of nature, a building cannot stand without vertical or (ordinarily) without lateral support." And further on the Lord Chancellor states that any one having seen a new building erected, can form some judgment as to its weight and the amount of support which it will require from its outward form and appearance, and then he proceeds,—"Having this knowledge, it is, in my judgment, by no means necessary that he should have particular information as to those details of the internal structure of the building on which the amount or incidence of its weight may more or less depend. If he thought it material he might inquire into the particulars, and then if information were improperly held from him, or if he received false or misleading information, or if anything could have been shown to have been done secretly, the case would be different." But it is now clear how difficult a task is thus now placed on adjoining owners, and how much may depend upon a very slight inquiry or a very slight omission to inquire. As soon as a new building is being erected at the boundaries of a property or against an adjoining house, there will be no safety without diligent inquiries and investigation, and when these have been concluded, possibly without some violent interruption of accruing rights in order to keep those which are still in existence inviolate in the future. And we confess that the balance of convenience seems to us rather in favour of making a man who erects buildings at the edge of his land or against adjoining buildings obtain an express grant from his neighbour of a right to support if he thinks it necessary; and if he does not take the trouble to obtain it, that his building should be erected at his own risk. The law, unless the Legislature should think proper to alter it, is now, however, finally fixed, and therefore we have been endeavouring to bring as vividly as possible before our readers the results and consequences of this decision in order that its practical effects may be appreciated, and its immense importance clearly recognised by those who are affected by it.

But it is impossible to quit the judgment of the House of Lords without pointing out that the right to support was based upon two grounds. One was, that a grant, or some lawful title equivalent to it, ought to be presumed after twenty years' enjoyment of the right to support. This is, of course, basing the right on a mere legal fiction; but, as the late Lord Justice Thesiger observed in his judgment in the Court of Appeal, "Such a fiction, like other fictions, may be open to the strictures passed upon it, but whatever may be its merits or demerits, it is too much to question the validity of its introduction. The doctrine of a lost grant forms part of the law of the land, and is, after all, but an extension of the fiction which had previously formed the basis of prescriptive titles; for every prescription imports a grant, which, in most cases, no one believes in." The common-law prescription arising from a lost grant was therefore the chief ground of the decision, and the one on which the case had been decided in the court below. The Lord Chancellor was, however, further of opinion that the claim could be supported under the second section of the Prescription Act. In the court below, Lord Justice Thesiger observed that the right in question "was not an easement coming within the Prescription Act, appears also to be generally admitted, and is assumed by me." A great portion of the Lord Chancellor's judgment went, however, to show that the right was within this Act. Shortly speaking, he considered the words "other easements," in the second section, to include this right, having previously shown that it was a right which was capable of being acquired by prescription, or rather by possession, since it could be long-continued and peaceable, and so capable of coming within the Act, if the words of the statute would permit. It is impossible, however, to discuss the interesting legal question thus raised by the Lord Chancellor at length: it is sufficient to point out that he bases his decision on it as well as on the fiction of a grant to be presumed from an enjoyment of twenty years. The practical result of this decision we have already pointed out, but the state of the law as it now exists cannot be more clearly or concisely stated than by another quotation from the judgment of the late Lord Justice Thesiger,—"The right of support for buildings by adjacent soil [and, we may add, by adjacent buildings] is one which may be acquired by proof of uninterrupted enjoyment for twenty years. But the question still remains whether the right of support acquired by user is an absolute one attaching itself to any house which has stood the requisite time, or whether any limitation is to be put upon the right. But a user which is secret raises no presumption of acquiescence on the part of the servient owner, and as a consequence no presumption of right in the dominant. If, therefore, a particular house were, by reason of some intrinsic or extrinsic weakness of a serious character, or owing to some unreasonable method of construction, to require a greater amount of support than houses of its kind usually require, the mere enjoyment in fact of that extra support [which the Lord Justice obviously means was not observable] would not raise the presumption of acquiescence on the part of the servient owner, or create a right to that extra support after twenty years' enjoyment. If, on the other hand, a house is of ordinary stability and of reasonable construction [or, we may add, if there is any extra weight clearly apparent] it is equally clear that the owner of adjacent soil must be assumed to know the amount of lateral support which such a house must need, and is bound to afford it as a matter of right after the house has in fact enjoyed it for twenty years." The law, therefore, being now settled, it is important that all owners of property and those who advise them should carefully safeguard themselves against the accruing of this onerous and, we must add, not easily prevented right.

Birmingham School of Art.—An examination for fifteen free admissions to this school is announced to take place on the 1st of July next. Free admissioners may study in the school for two years, and they are then eligible to compete for minor scholarships of 5*l.* per annum, tenable for two years, at the expiration of which they may compete for a major scholarship of 40*l.* per annum, tenable for two years, with free admission to the classes.

NOTTINGHAM UNIVERSITY COLLEGE.

NEXT Thursday Nottingham will be honoured by a public visit of Prince Leopold, the newly-created Duke of Albany. Three years before, save three days, the famous home of lace and cricket was rejoicing in another royal visit, its august guests on that occasion being the Prince and Princess of Wales. The connecting link between these two events is education. The Heir-Apparent and his gracious consort opened the restored Castle as a palace of art and a museum of local industries; the duty of Prince Leopold will be to declare open a magnificent pile of buildings which has just been raised, mainly at the public charge, for the promotion of scientific and technical teaching among all classes of the townsfolk. The somewhat costly experiment of the Castle has been attended with ample success to justify this further venture in a direction not at present held too highly in favour by the local governments of our large towns.

Nottingham may, indeed, in this matter fairly be said to have taken a new departure. The town, both from its splendid natural position and the energy of its inhabitants, has always been held in repute,—but formerly its reputation was of a different kind. Marking, in the old time, the border between Danish and Saxon England, its possession was the object of many a sanguinary struggle; and long afterwards, commanding, as it did, the first bridge that spanned the broad and swift-flowing Trent, its position as a stage on the great north road was of vast importance. In those days Nottingham received many royal visits, but these were by no means uniformly of a friendly character. With its rock the pitiable story of Roger Mortimer is associated; and upon the same summit, long afterwards, was the banner of Charles I. unfurled on a spot,—now covered with sedate houses of three-quarters of a century or more,—still called from the event Standard-hill. The Reform period, too, left its mark on the town in grim and stern characters; but Nottingham of to-day gladly forgets this phase of its history. Its present *rôle* is that of a pioneer in the cause of popular education, and in view of next week's ceremony, it may not be uninteresting to trace the origin and development of this movement.

This town has, in fact, some claim to the honour of originating the scheme for the localisation of our ancient universities. So long ago as 1871 it was determined, at a meeting of the supporters of the Mechanics' Institute, upon the motion of Mr. Richard Enfield, that it was desirable to establish classes at which workingmen might have facilities for obtaining instruction in those subjects most important for them as artisans, fathers of families, and sharers in the political power of the country. Lord Ossington, the late speaker of the House of Commons, who was then president of the Institute, took a leading part at this meeting, and it is interesting to note that, with a view of carrying out what would have been her late husband's wish in promoting higher education among the artisan class in Nottingham, Viscountess Ossington has presented to the Corporation 300*l*., the income to be applied in providing a scholarship at the College, to be called the "Lord Ossington Scholarship," and to be competed for annually by persons of the working class. As a result of the meeting to which we have referred, a conference of representative working men afterwards took place; but at this early stage the difficulty of obtaining suitable teachers appeared almost insurmountable. Other large towns, however, joined in the movement, and memorials were addressed to the universities with a view of obtaining the extension of their advantages to those whose circumstances prevented their personal attendance at the seats of learning. The Elementary Education Act had been promptly adopted in the borough, and the movement seemed to open a way for the necessary results of the operation of that Act. The undertaking was so successful that in two years' time university classes and lectures were established in the town, and have ever since been continued, the average sale of tickets being 1,248 per year. At the same time the Government science classes were continued with growing success at the Mechanics' Institute, and in other parts of the town, the total average of students being 530. It will be evident that such important educational machinery could not long be continued in operation without a need beidg experienced for an adequate central building in which it could be placed. New homes were likewise urgently required for the public libraries and the Natural History Museum, which were both under the auspices of the Corporation, and in this joint want we have the origin of the handsome college which is now ready for use.

Early in the year 1875, the Town Council received an offer of 10,000*l*. from an anonymous donor, through Mr. Richard Enfield (whose name has already been mentioned as an early mover in the scheme), towards the endowment of suitable educational buildings. The Council referred the offer to a special committee, and after due consideration, it was resolved to erect one group of buildings calculated alike to meet the requirements of the anonymous benefactor, the pressing educational necessities of the town, and the exigencies of the libraries and museums. The site chosen for the buildings was the Horse Fair Close, a portion of land surrounded by new and handsome streets, and yet sufficiently central to meet all the requirements of the population. Those who know Nottingham at all will at once remember its spacious open Market-place, which is approached from the railway stations through densely-crowded and, in part, tortuous thoroughfares. North of the Market is a thickly-populated area pierced by what is, architecturally considered, certainly the finest business thoroughfare in the town, Market-street. The colonnade of the theatre faces the passenger at the top of this street, and scarcely more than a stone's throw further north is the University College, a pile which will in future go far to redeem the unusual poverty of the town as regards municipal architecture. There is, moreover, another advantage in the site selected. The east wing of the college faces the large cattle-market, and it is an open secret in the town that here will some day rise a town-hall, suitable to the wealth and importance of Nottingham. For the present, however, our business lies on the west side of Sherwood-street, with the University College. The style of the building is Gothic, and in the erection the efforts to obtain both external and internal harmony have been fairly successful. The principal front faces northward into Shakspeare-street. It is 260 ft. in length, and 60 ft. in height. The principal entrance gable in the centre projects considerably from the general line, and is supported by projecting gables at either end. Those three gables have massive pinnacles at their angles, rising from the ground-line. The façade between the centre and the two end gables is divided into two-light windows, with shafts in the jambs, and with shafted mullions. The upper floor is formed into a continuous arcade of single-light windows divided by piers, formed of double-coupled columns. The ranges of upper and lower windows are, however, broken in the centre by effective projecting bay-windows, of different treatment, carried the whole height of the building, their lofty roofs being carried with the main roof. Four richly-treated dormer windows are placed between the bays and the wings. The central entrance gable is the principal feature in the front, and is divided on the ground-plan into three pointed open archways, with clustered columns and admirably carved capitals. Over these arches, on the first-floor level, are three large windows, by which the entrance-hall is lighted. These windows are filled with geometrical tracery with shafts to the jambs and mullions. The upper part of the central gable is covered with diaper work and divided by a broad band of sculpture, representing a school of students of the arts and sciences, and also by three medallions in high relief of Sculpture, Painting, and Music. Another important feature of this front is the set of six statues, each 7 ft. 6 in. in height, placed on pedestals, and surmounted by canopies, which serve to indicate the purpose of the building. Thus, over the college entrance are those of Bacon and Newton; over the Free Library wing the statues of Shakspeare and Milton; and over the Museum wing, Watts and Cuvier; and these statues, which are well modelled, are the work of Messrs. Farmer & Brindley, of Westminster. From the centre of the front, at the junction of the side roofs with that of the principal gable, rises a spire of wood, covered with lead, to the height of 120 ft. The façades towards South Sherwood-street and Bilbie-street are similarly treated to the principal front, with which they group in picturesque outline. The building throughout is executed in a bright, warm Ancaster stone, and the roofs, which are lofty, are covered with Westmoreland slates in bands, terminated with a handsome wrought-iron ridge cresting. The chimneys are in cut-stone work, with projecting and re-crossed sides, with moulded bases and cornices. The liberal use of stained-glass in the principal windows also adds considerably to the richness of the building, the general effect of which is heightened by its broad surrounding space, laid with grass, and planted with trees.

The interior of the building is admirably arranged for the various purposes for which it is intended. The public library occupies the Sherwood-street side, with a central reading-room, 90 ft. long by an average of 45 ft. wide. Above is the reading-room and reference library, an apartment of the same proportions, and lighted from the roof as well as the sides. A committee-room and students' reading-room are provided on the second floor. The opposite portion of the building contains the Vertebrate and Invertebrate museums, occupying respectively the first and second floors, whilst the basement is devoted on the one side to rooms for the unpacking of books, and on the other to workrooms for the preparation of specimens, communication being obtained with the upper floors by means of lifts. Behind the principal entrance are placed the three theatres for chemical, physical, and general lectures, the two former having laboratories, workrooms, and professors' rooms attached. All these apartments are fitted with the newest improvements, and no effort has been spared to render them complete. The largest theatre, intended to be used for popular lectures upon scientific subjects, will accommodate 600 persons, and is illumined from the roof by two sunlights, which are lighted by means of an electric battery. The Chemical Theatre will accommodate 220 students, and the Physical Theatre has seats for 100 persons. Attached to this last room is the balance-room, in which is fixed a special table, resting upon the solid rock which forms the foundation of the building, in order to avoid any tremor of the fabric which might be caused by passing vehicles, interfering with the carrying out of delicate experiments. The optical gallery, for experimenting in light, is said to be one of the finest in the kingdom. It is 125 ft. in length, and admirably constructed. All the fittings of furniture throughout the building are in American walnut. The entire cost of the works, including furniture, fittings, and decoration, is about 70,000*l*., which, with the value of the site, 30,000*l*., raises the total to 100,000*l*. Messrs. W. & R. Mawson, of Bradford, are the architects.

The plan of study to be pursued in these buildings merits, in conclusion, some notice. The first object of the council is that the college shall be open to all classes, without any distinction, and especially without any religious test. Although scientific and technical teaching will occupy a large space in the curriculum, the classics are not to be omitted,—the experience of the Mason College at Birmingham proving the necessity of teaching both Latin and Greek. It is hoped that under the improved conditions the university extension lectures and classes will be more largely attended than in the past; and that the same influence will also favourably affect the attendance at the Government science classes. A most important department of the work will be the technological school, the instruction given in which cannot fail largely to affect the welfare of the town. Classes will here be formed for teaching, in a more direct manner, the theoretical parts of certain trades, and it is hoped that assistance may be received in this particular branch of study from the City and Guilds of London Institute. The teaching is to be largely directed to those branches of knowledge which are capable of practical application in the various industrial pursuits. It is to be distinctly understood, however, that the classes are not so much for the teaching of trades, as for teaching those subjects which underlie work and bear upon trade, by helping to develop the intellect of the workman. Besides the resident professors and their assistants, the teaching in the college will be carried on, as has already been intimated, by university extension lecturers from Cambridge, science teachers from South Kensington, and technological teachers. It is estimated that the number of students who will avail themselves of the college will not be less than 1,400. As the council desires to bring these educational advantages as far as may be within the reach of the working-class population, a large proportion of the lectures and classes will take place in the evening. Most of the professors and

other members of the educational staff have already been appointed, and the work of the college will commence about September next. The great aim of the council throughout this large undertaking has been to provide an opportunity for the efficient education of every person in the town. A promising lad may, by this means, advance from the elementary school to the high school, and from the high school to the university, where it may be ultimately possible for him to complete his studies, and take his degree, in the same way as if he were at Cambridge or London. The work has already met the approval of many eminent and distinguished men, including Mr. Gladstone, who was present, and displayed great interest at the ceremony of laying the foundation-stone of the college in September, 1877, on which occasion he closed his speech with these significant words,—"Every man must wish you God-speed in this work. It is a good work, it is a noble work, an intelligent work, and, I might say, a holy work."

The preparations for the reception of Prince Leopold are now almost complete. The town will not be decorated on the same elaborate scale as marked the visit of the Prince and Princess of Wales, but all the leading inhabitants will take care that the festive character of the proceedings shall be duly marked. The opening ceremony will be of the least formal description possible. After the Prince has inspected the college, and formally declared it open, he will lunch with the mayor and a distinguished company, both of residents and visitors, and he will leave the town early, in order to dine at Bestwood Lodge, the seat of the Duke of St. Alban's, whose guest he will be during the visit.

IN MEMORIAM:
SIR JOSIAH MASON, KNIGHT,

Ob. June 16, 1881.

THE death of Sir Josiah Mason cannot be allowed to pass without the payment, in the columns of the *Builder*, of some tribute to the energy, the sagacity, and the charity of a man, with regard to whom we may be proud to make use of the concluding lines of the ballad of Chevy Chase. It is because England has her hundreds of men in great measure, if not altogether, "such as he," that England has attained her place in the world. Whether we regard the career of Sir Josiah Mason as an example of what may be attained, by genius and perseverance, by the Englishman, though ever so lowly born; or whether we regard the wise, patriotic, and noble use that he made of his vast wealth, we shall find equal subject for admiration. The chances are ten to one that the pens which have announced his death are the production of his skill,—skill first as an inventor, or rather as an improver of the first rude iron pens; and then as an organiser of labour and a great manufacturer. Mason was a remarkable instance of a man who possessed what is at once the rarest and the most enriching quality of a man of business, we mean sagacity. Brilliant as is the genius of the inventor, the cases are very rare in which it has brought wealth to its possessor. But the cases are less rare in which that sagacity which can duly estimate the value of an invention has brought wealth. It may not be thought impertinent to add that this business-like sagacity also eminently characterised Mason's partner, Mr. Perry. When he saw the first pens that Mason made, he saw that there were millions of money behind them; and on that perspicacious foresight were based the fortunes of the great firm of Mason & Perry.

Another of the new triumphs of the natural magic of the nineteenth century was appreciated by the keen mother-wit of Mason, and grasped by him as a source of wealth. He joined with Mr. Elkington in the development of that exquisite method of casting metal which is known by the name of electrotype. This discovery is,—not forgetting photography,—probably the grandest service which science has rendered to art. We do not allow that, with persons of refined taste, the finest electrotype can rival in value a genuine piece of hand-work in silver, or even in bronze. And there is a remarkable element of instability in electrotypes, to which we are not aware that attention has been yet called. We have found in the case of a very beautiful reproduction of a Greek coin in copper, which was first silvered, and then gilt, by electricity, some internal galvanic action to set up, which made the copper sweat through the gold, and constantly tarnished the medal. We do not speak from personal experience as to a like action in larger objects of the same kind; but we cannot conceive our own case to be a singular one. Of course, this will not apply to electroplating on nickel; but as regards facsimiles of great works of the goldsmith, it is very deserving of note. That, however, being borne in mind, the means thus afforded of obtaining facsimile copies of the works of Cellini or of the Greek portrait sculptors is one of the most valuable aids yet afforded to the artist and the lover of art.

The money thus sagaciously earned was nobly laid out by Mason. He is said never to have taken up anything by which he lost money; and when this degree of wisdom is possessed, the possessor need not trouble himself further. Money then makes itself. How to dispose of it becomes the trouble. There are not a few instances of the difficulty thus experienced by humble,—or humbly-sprung,—millionaires. An orphanage, founded and endowed, near Erdington, at a cost of 280,000*l.*; a set of almshouses, of which we are not in possession of the cost; and the Mason College of Science, built and endowed at an outlay of nearly 300,000*l.* at Birmingham,—are the offspring who will hand down the honoured name of Mason to a remote posterity. Happy, indeed, the self-made man who has no other children! The offspring of humbly-nurtured *nouveaux riches* generally show the strongest tendency to reversal. It is well when a man who achieves such a triumph over the world has only his fellow-men at large for whom to care.

Reverting to what has been recently said in our pages as to practical education, it may well be conceived that we should give the highest tribute of admiration to educational institutions founded upon that principle,—and so we do; but it is not in things human to be perfect. If ever the time should come when practical education, primary as are its claims on our support, should elbow aside the study of the classics, of Euclid, and,—highest effort of the human mind,—of Aristotle, by those who are born to take the position of leaders and teachers of their fellows, it will be an evil day for England. Thus the protest against "mere literary education and instruction," which is contained in the trust-deeds of the Mason College, has its weak as well as its strong points. It might, perhaps, be better to put a lad at once to a forge or a foundry than to send him to a crammer, to prepare him for some *outré* competitive examination. But if cram kills literature and philosophy, which it is on the way to do, the substitution of art and industrial science scholarships will be but a poor, mean, and beggarly sequel, inducing a movement ever tending to run down hill, unless elevated and controlled by learning, by taste, and by imagination.

A detailed sketch of Sir Josiah Mason's remarkable and encouraging career was given by us last year (see vol. xxxix., p. 421). In the same volume we gave particulars (pp. 321, 439) and view and plans (pp. 444, 446–47) of the Mason Science College, Birmingham. A view and description of the Erdington Orphanage were given in our volume for 1869 (vol. xxvii., pp. 744, 747).

SOME POINTS OF COMPARISON BETWEEN THE FINE ARTS.

"Comparisons are odorous."—*Shakspeare.*

THE following remarks relative to the fine arts (poetry, painting, sculpture, architecture, music, and the drama) may not be uninteresting to their lovers.

These arts in various ways and degrees imitate nature, but are none of them imitations only, though, strange to say, some of the greatest men have fallen into the mistake of supposing painting and sculpture to be nothing more, and that their proper aim is to reproduce nature literally. Plato, as noticed by Sir J. Reynolds, speaks of painting as if perfect imitation, to the extent of deception, was its ultimate object. So does Pope in his epitaph on Sir Godfrey Kneller. But Johnson, Goldsmith, Cowper, Charles Lamb, Byron, Sydney Smith, and other eminent men, evidently had no higher notion. If this were true of these arts, they could not be fine arts at all, or sisters of poetry. But their object, equally with poetry, is to supply the natural deficiencies of things, and often to gratify the mind, by realising what never existed but in the imagination. The imagination is here the residence of truth, which, as Lord Macaulay says, is the object even of those works which are peculiarly called works of fiction, but which, in fact, bear the same relation to history which algebra bears to arithmetic.

Poetry, by the possession of the literary element, words, the instrument nearest to the mind itself, can distinctly assert a truth or state a fact, which no other of the arts can do. By virtue of this instrument the range of poetry is infinitely wider than that of any other of the imitative arts, and effects are within its power to which painting and sculpture can never attain. The sculptor can imitate only form; the painter only form and colour; poetry holds the external world in common with her sisters; but her home is amidst the intricacies and mysteries of the heart, which is the province of poetry and of poetry alone.

Care must be taken, however, not to attribute too much relative value to the phonetic element in art. It is, I think, by doing so that Dr. Fergusson, in one of his earlier works, in which he gives a tabular comparative view of the arts, showing the proportion in which the three elements of technic, æsthetic, and phonetic enter into each, arrives at the conclusion that eloquence is a higher art than epic poetry. The design of poetry and the arts is to speak through the heart to the head, by which they can have a greater effect upon the latter than by dint of the phonetic element going immediately to it.

Again, poetry appeals more directly to the mind, and has less to do with the senses than any other of the arts. While painting, sculpture, and architecture are addressed to the mind through the eyes, and are appreciable to the touch; while music is a communication of emotions to the soul through the ear; and all four please the eye or ear before they reach the imagination, poetry has nothing to do with the eye or ear, but to go through one of them as a gate, according as it is read or heard, to the mind. It may be said to be a direct communication of soul with soul; for the eye in reading does not see the poem or its images in the book, the words of which are merely symbols of the author's ideas or instruments of the art, not its objects. The building called the Parthenon is the real work of Phidias and Ictinus; the statue of David, at Florence, is the real work of Michelangelo; but the printed Greek book, called the "Iliad," or the MS. from which it was printed, is not the immortal poem of Homer, but only a set of conventional straight and curved black strokes. Moreover, while time has some dominion over pictures, statues, and buildings, poetry, so long as human language endures, may bid him defiance. We can imagine an ode or elegy, like spirit, immortal by means of printing, which could reproduce the symbols representing it through eternity. And while the works of the painter, sculptor, and architect are material, tangible, local, comprised each within a limited space and destructible utterly, a poem is, like a spirit, invisible, intangible, and unconfined; and may be revealed by its symbols to the soul in any corner of the universe. It could be lost by the destruction of its copies, but it may be rendered ubiquitous almost by multiplication of them. Words themselves are the common property of all men; yet, "from words," says the late Lord Lytton, "the poet piles up temples that shall outlive the pyramids; and the very leaf of the papyrus becomes a Shinar stately with towers, round which the deluge of ages shall roar in vain."

On the other hand, while painting, sculpture, and architecture are self-dependent, poetry is dependent on the instrument, words, or letters for its existence and manifestation. So that if all languages were forgotten, all poems would be lost, as indeed would all histories and literature. "Othello," for instance, depends for its existence on the duration of the English language, as does the "Iliad" on the duration of the Greek, and the "Æneid" on that of the Latin, making no account of translations. The works of the painter, sculptor, and architect, being self-dependent, can never be lost except by intentional violence or neglect, and their language is not only universal, but unfailing. It is in form alone the ideal can be rendered permanent.

Music has the same advantage of painting and sculpture that poetry has in being able to set time at defiance and exist by the perpetuation of its symbols for ever; while it shares in her disadvantage of being dependent upon a conventional language, in her case the musical

notes, for its existence, which language, however, is superior to the literary language in being universal. If this musical language ceased to be understood, the great musical compositions would be no more, though they would cling to the memory of men more tenaciously and more generally than poetry; from which cause, doubtless, many musical compositions were handed down ere the musical language existed. It is an historical tradition in the Church of Rome that the Ambrosian and Gregorian chants were originally sung in the temples of Olympian Jupiter.

Of all the art-sisters, music is the most domesticated,—the most associated with the various events of our lives, with our pleasures and pains, triumphs and humiliations. It is of all the magic circle the most sought for to express our joy, to sooth our sorrow; in which latter it is peculiarly welcome. We do not sooth our griefs with painting, or sculpture, or architecture, but with music, which is welcome to us in moods in which nothing else could please, and its various kinds,—anthems, glees, dirges, marches, &c.,—correspond to our various circumstances. It includes younger and humbler followers than any other of the arts, boys and girls who have no idea of poetry or painting being often good singers and instrumentalists. As might be expected, nothing comes to us so laden with associations as a song sung long ago. That music will charm where all the other arts would be powerless seems to have been the faith of remote times. Polybius tells of a savage nation civilised by music; Terpander is said to have appeased an insurrection in Lacedæmon by his songs. It alone can reach the heart of the brute. The ancient poets expressed their sense of its power in their account of the skill of Orpheus, Amphion, Mercury, and the Sirens, especially of the first, Calliope's enchanting son, who sang,—

> "Such notes as, warbled to the string,
> Drew iron tears down Pluto's cheek,"

which caused the wheel of Ixion to stop, the stone of Sisyphus to stand still, Tantalus to forget his thirst, and the Furies to relent.

But the greatest glory of music is that, more than any of its sisters, it is able to kindle devotional fervour and lift the soul heavenward. It rouses the sublime passions, and gives to the soul glimpses of ideal or visionary beauty and rapture, and awakens passions of which we were previously unconscious. Through this faculty it has in all ages been the most valuable handmaid of Religion, and employed in divine worship, public and private. Music formed a very important part of the festivities and religious services of the Jews. The priesthood were musicians by office, which was hereditary. Gratitude for the passage of the Red Sea was expressed by song, sung by Moses and responded to by Miriam, attended by all the women with timbrels in their hands. David, who is said to have played on thirty-six instruments, separated to the musical service the sons of Asaph and others, who should prophesy with harps, with psalteries, and with cymbals. In his own mind music would seem to have been inseparably connected with the worship of God. His harp, with vocal accompaniment, was his instrument of communication with Him, as the whole of his psalms, which embody the universal language of religious emotion, attest; and he exhorts all to the same exercise with the harp, the psaltery, and an instrument of ten strings, with the timbrel and dance, the loud and high-sounding cymbals. Among the glorious things spoken of Zion, the city of God, is,—"As well the singers as the players on instruments shall be there."

Music, united to poetry, intensifies and seconds its strokes, like the tones and modulations of the voice in an oration, and raises the poetry into rapture.

A drama differs from all other art-productions in being in itself incomplete, and indebted for its full development to other arts. While the printed epic commits to the mind of the reader the entire poem, the printed drama is a mere skeleton, to be clothed with flesh in the shape of stage-scenery and decorations, music, and acting, chiefly the latter, which is based on the fact that nature has assigned to every passion its peculiar cast of the countenance, tone of the voice, and gesture of body, more especially the expression of the face. The whole stage,—actors, music, scenery, &c.,—is to the written tragedy or comedy what a musical instrument is to the music. It is one great instrument or organ, through which various plays are presented to the sight or hearing of an assembly. The opera and masque are in similar case to the drama as regards dependence on other arts.

The productions of architecture differ from those of all the other arts in having fixed local positions, like trees or mountains, and in being all-in-all in themselves,—the real final objects of the art, not representations of something higher. A palace or church stands for nothing but itself; you have only to look *at* it, not to look *through* it to anything beyond it. Yet it speaks to the imagination, which renders it prolific, till it throws off higher and brighter images, like music, between which and architecture there is striking analogy.

There has ever been a tendency among imaginative people to connect the idea of music with the motion of the heavenly bodies; or the visible beauty of motion with the audible beauty of sound, originating the expression "the music of the spheres." In Scripture imagery "the morning stars sang together"; and, sings Shakspeare, paraphrasing this passage,—

> "There's not the smallest orb that thou behold'st
> But in his motion like an angel sings,
> Still quiring to the young-eyed cherubim."

Milton, also, in "Arcades," refers

> "To the celestial Sirens' harmony
> That sit upon the nine infolded spheres,
> And sing to those that hold the vital shears."

But the relation of music to motion is only a fanciful one. It has a real relation to beautiful form, as in works of architecture, which have been justly conceived of as arrested music. They have a similar effect on the mind to musical compositions. Like music, a piece of architecture excites sensations or emotions instead of ideas; awakening, according to its kind or class, the agreeable, delightful, or sublime passions.

Architecture, unlike all her sisters, has to minister to the lower necessities of man as well as the higher, and through this it is that there is centred in her works such strange extremes. Like ourselves, they are

> "From different natures, marvellously mix'd
> Connexion exquisite of distant worlds."

Built generally to serve the perishing body, but wrought into shapes of beauty to delight the immortal spirit; consequently, though a soul-born art, architecture, influenced by climate and building material, like plants and animals, presents a different aspect and character in every region of the globe.

The mutual influence of the arts is an interesting subject of speculation. It was Homer that inspired Phidias to the conception of his Olympic Jupiter; as, doubtless, Phidias and the other "magicians in marble" reacted on the poets. "For," says Lucian, "we adore Phidias in his works, and he partakes of the incense we offer to the gods he has made." Among the Roman poets Horace is eminently statuesque. Lower down in time a remarkable instance of the influence of painting and sculpture upon poetry may be seen in the Italian poets, whose peculiar power of presenting sensible objects to the imagination has been attributed to the circumstance that painting and sculpture had attained a high degree of excellence in Italy before poetry had been much cultivated; by which it came to pass that Italian poems are pictures painted by words. The poetry of Dante, as noticed by Macaulay, is picturesque beyond any other. On the other hand, Hallam has drawn a parallel between the styles of Ariosto, Tasso, and other poets, and the works of Correggio and certain painters; and thinks Tasso had great influence on the Bolognese school of painting.

An exceptional instance of the influence of the drama on painting may be seen in Hogarth, who invented a species of Dramatic Painting chiefly directed to satire. The "Marriage à la Mode," which is virtually a drama in six acts, has been compared with the poetry of Crabbe. In his tragico-satirical vein, Hogarth's works are analogous to those of Swift. He has been said to *write* rather than *paint* with the brush, there being in his pictures so many collateral points rather hinted at than expressed that they can only be noticed in succession.

That sculpture and painting have helped each other is what might be expected. The great impulse given to Florentine art at the beginning of the fifteenth century, which prepared the way for Fra Angelico, Masaccio, and other precursors of Raffaelle, was, according to Vasari, through the advance made in sculpture by Lorenzo Ghiberti, Donatello, and Lucca della Robbia.

SAMUEL HUGGINS.

THE PARIS MUSEUM OF DECORATIVE ART.

WE have more than once in these pages referred to the Paris Museum of Decorative Art,—strangely enough, a perfectly new institution in that highly decorative city. The promoters of the Museum have made no attempt to conceal their effort to emulate our own South Kensington Museum, and so far as they have gone they have met with the most friendly co-operation and sympathy from Sir Philip Cunliffe Owen and the South Kensington authorities. It was but the other day we found a number of English workmen busily employed in the wing of the Palais de l'Industrie, in which the Museum is now placed, erecting a magnificent gift from South Kensington, consisting of a gigantic cast from the famous Indian Tope of Sanchi. As one goes through the very few rooms that the Museum at present owns,—and which have been recently thrown open after having remained for some weeks closed,—one is again and again reminded of the Museum at South Kensington, by the inscription stating that the object or objects have been the gift of that great establishment, and sadly does the French Decorative Museum stand in need of similar aid. France in this respect is unfortunately utterly unlike England. In France it is but a comparatively rare instance where the owner of great possessions either presents or bequeaths his treasures to the nation. Their laws of inheritance are unlike ours, and stand in the way of this advantage to the many; still there are individuals who from time to time have made some noble bequests, but it is difficult or impossible to point to any single instance like so many that we in England have reason to be proud of. Pride, charity, and benevolence are widely spread enough, but they partake of the old-established form, and are mostly dictated by the directions of the Church. The steady formation of such a noble institution as our British Museum, whose history is one record of splendid bequests in the century of its existence, would be scarcely possible in France.

The Museum of Decorative Art, as one now finds it, appears mostly interesting from its struggling against difficulties, difficulties which doubtless the promoters are slowly overcoming, but which certainly have the appearance of very seriously handicapping the efforts of the directors. When last year we visited their first promising exhibition there certainly seemed every reason to feel that there was a chance of rapid progress, but when, after the Museum has remained closed during a lengthened period for changes and the arrangement of additional exhibits, we again find, on the reopening, that so little has been added, and that little of so small an interest, we almost despair of continuing in our sympathy for the struggling difficulty of what appears to be a too inactive management. Of course, we are exceedingly glad and happy still to see M. Galland's admirable decorative studies and sketches. It is impossible to estimate too highly such works, or the somewhat similar decorative designs of M. Mazerolle, who, however, sends little beyond the exceedingly-elaborate studies made two or three years since for the decoration of the ceiling of the Théâtre Français, a decorative work of modern art, which certainly entitles M. Mazerolle to be regarded as the master of that peculiarly French mode of wall and ceiling painting that they have inherited from the earlier masters,—a mode of decoration that scarcely, for any single year for several centuries, has been altogether idle.

No doubt M. Galland, who holds the exceedingly-honourable position of Professor of Decorative Art at the École des Beaux Arts, and M. Mazerolle, would, on the shortest notice, and in a limited stipulated time, most willingly undertake to cover with decorative motives the largest spaces in the largest buildings of this very big age; at the same time, it must be admitted that M. Galland especially seems very loth to finish, or even advance another stage, the two or three beautiful beginnings of small decorative pictures that he has exhibited now for two years,—pictures which, in their unfinished state, beautiful as they are, are already beginning to have an antique look, even in the lifetime of the gifted artist whose studies, surrounding these two pictures, appear after all more like imitations of the great Renaissance masters than pure emanations from a fertile brain; they possess, in fact, the sort of originality that comes from a wide knowledge and acquaintance with other men's ideas, and are perhaps

little more than learned translations, sometimes slightly too literal, and suggestive at times of an absence altogether of true feeling.

The whole aspect of the exhibition this year cannot be said to be improved; there is the same magnificent collection of Mediæval and Renaissance woven tissues, but still inferior to many on the Continent, notably the collection of the German Museum at Nuremberg or that at Munich, but sufficiently complete to be highly instructive, and certainly comprising specimens almost from the earliest known periods of the art of the weaver and the embroiderer,—one piece of woven linen of Egyptian fabric dates from several centuries before Christ,—down to the last marvellous imitations of Lyons and other industrial centres.

There are some new studies by that favourite French decorative artist, M. Puvis de Chavannes, in which the decorative artist appears anxious to show with how much difficulty he produces so little effect in the fifty or sixty frames that he exhibits, each frame containing several small sketches such as we are disposed to think many artists would allow to reach their waste-paper basket.

The specimens of hand-work embroidery on sage-green and old gold-toned velvets and cloths that are here exhibited cannot by any one be regarded as good specimens of this now popular and much-abused method of decorating furniture; and when one considers the original motives for this style of ornamentation,—when one recalls the specimens that are still in existence, with their well-proportioned delicate fringes, considered as carefully almost as the architectural mouldings of great works, of the beauty of form and colour, position, and object of the tassels, contrasted with those hideous bobs in various coloured wools which now take their place, we are surprised to find imperfect specimens of this kind of work exhibited for our instruction at the French Museum of Decorative Art. It is quite certain that this mode of decorating furniture has become a hideous abomination, but that it is a mode capable of attaining desirable results is shown by the existence of a few rare early specimens, chiefly of the seventeenth century, and the successful imitations by very skilful artists. We have seen at Jackson & Graham's, and at Tetrel's, in Paris, some of these that are worthy to be placed alongside our most cherished pieces of furniture.

A very instructive collection of wood-carving has been newly presented to the Museum by M. Stein,—a fine beginning for what may probably follow. In addition to these original specimens of pure carving in wood, a number of casts in plaster of Renaissance work have been placed by their side for the instruction of the artist and the mechanic. In another portion of the Museum is exhibited a fine collection of casts from old locks and other ironwork, and a magnificent collection of small works in terra cotta has lately been presented to the Museum by M. Mocist; and in a case by their side the authorities have placed a tolerably good collection of those most charming of all terra cottas, the small female figures so delicately designed and so exquisitely painted,—those smiling, thinking, moving, captivating girls unearthed at Tanagra, although it cannot be said of this latter collection that the specimens exhibited are of the finest,—an object which should never be overlooked in a museum aiming so high as this.

A STRANGER IN LONDON.

THE traveller or the stranger in London who proposes to himself the pleasure of a journey from one end of the metropolis to the other,—from the east to the west, or from the north to the south, or to circumnavigate the famous city,—has before him a task involving no small interest and not a little labour.

Time was, we all know, when London was confined, like so many other great capitals, within a limited area,—confined by the city walls, with gates and bars and all the paraphernalia and impediments of corporate authorities. Those were what have been so often called "the good old times,"—times good, doubtless, in some respect, but leading certainly to better, although who can say, at the rate we are now going, when we are to arrive at the best? London has long been regarded, especially by intelligent foreigners visiting us, not so much as a city, but as almost an accumulation of cities, and Londoners have themselves been too used to its enormous size to be aware of how much in this respect it exceeds other European cities. Few of the thoughtless visitors to Paris who come away over-pleased or otherwise with that beauteous capital, are aware that within the area that people understand by the city of Paris the population is scarcely one-half of that of London, and in all those sources of admiration or of compliment that so many of us indulge in, whether at home or abroad, the thoughtless are too apt to overlook the enormous advantage that climate gives to our friends on the other side of the Channel.

"*Ingenia hominum locorum situs format*,"—

classic authority assures us. Still, the stranger in London, whether he has only been absent for a sufficient time to allow of just comparison, cannot fail to be struck, on returning to London, especially after a lengthened visit to Paris, by the enormous superiority that the streets of the foreign capital possess over those of London in point of cleanliness and order; the one having arrived in a very large portion of its area at absolute perfection with regard to this important question; the other, our own beloved London, still overlooking the most obvious means of sweeping, watering, and removing heaps of dirt in order to secure ordinary cleanliness. The most familiar acquaintance with the filth and dirt of London,—that familiarity that is supposed to make us accustomed to almost any horror,—must still leave room for complaint at the state of London streets in very wet or in very dry weather, while the utmost familiarity with the opposite in Paris never fails to appeal to our sense of admiration as we walk or ride through the rapidly-improving streets of the city.

In setting out, as we did the other day, with a friend for a drive through London, with a view to be shown some of the alterations and improvements that have taken place in the great metropolis within the last seven years, and starting from that charming district, the neighbourhood of Kensington Palace,—to the resemblance of which in a certain degree to Fontainebleau our friend called our attention,—we ourselves were reminded of what, until lately, we were not aware, that the trees of London possess a beauty of their own quite as characteristic as the lovely trees of the gardens of the Tuileries, and are far more beautiful than those of the Champs Elysées. With regard to the trees, it is surprising, notwithstanding the condition of the London atmosphere, how greatly many even of the old trees have increased, and how enormously they have added to the beauty of our city. The trees that have recently been planted on the Thames Embankment and in Trafalgar-square and in parts of Cromwell-road and on the other side of the water, are making tolerable progress, although the poplars in front of the South Kensington Museum, planted by Prince Albert, appear in a very sadly-neglected condition, whereas the fine group planted also by him on the south side of Buckingham Palace have improved immensely; but on the whole, the modern *arboretum* of London, or its commercial working, is far from being in the flourishing condition that it is in Paris, where it may be said to have arrived, as far as a metropolis is concerned, financially and artistically at perfection. One of the features in the Paris streets consists, not merely in the existence of the shady trees that do so much service in this way, and in adorning and concealing the monotony of the architecture, but in the fact that they give a new interest to the thoroughfare by the necessity of transplanting, and the paraphernalia connected with the process which allow trees of 50 ft. to 60 ft. high to be removed and replaced with comparative ease.

On returning to London after many years' absence, the most striking feature is undoubtedly the enormously increased height of the buildings. Not merely is the stranger embarrassed by the sight of a house like the Hankey buildings at Westminster, but by the great height of all the houses that are now being erected, and in this respect the old feeling of the comparatively meagre look of our own city after a return from the Continent no longer exists. So far from that being the case, London appears, after a lengthened absence, and after visiting many capitals, to exceed all others in the importance of its public and private buildings, excepting, of course, such enormous works as the Vatican, St. Peter's, and the Palace of the Louvre. One feels amazed when one for years has been reading in so many English journals accounts of English architects and architecture of a nature to lead one to suppose that the art was almost dead, that the professors were incompetent, and but scarcely able to manage their own business; but a ride or a walk through the City, or almost any portion of the metropolis at the present moment, supplies us with modern architectural features, the result of the modern thought of skilful artists, enough to satisfy even the fastidious.

And then the local changes! What a surprise is it to be taken to Sloane-street, for example, and to find, if old Hans-place, with its many memories, poetic and artistic, is all but the same, in its immediate neighbourhood, on the ground so long neglected until the days of Prince's, all passed away, and in its place the red brick houses now being all but completed, which occupy what is called Cadogan-square,—a spot that old Londoners so well remember, no longer to be visited, and the houses of dear old friends replaced by magnificent mansions for, if not magnificent people, the possessors certainly of magnificent means. Is it possible that the time has really arrived when the prosperity of our country will allow many of us not merely to dream of occupying such dwelling-places, but to be actually in the possession of the means to allow us to do so with the calmness that the certainty of security brings so healthfully?

The London builders would appear to fully believe in this possibility, to judge from the arrangements they are making in every direction; but is it not somewhat ominous that at the moment when "the season" is "in full swing," so many white placards should meet the eye, and in the windows of so many of those "desirable mansions" that within a few years, have risen in the more favoured neighbourhoods of the metropolis?

But if the unoccupied houses seem to be many, how to count the whole neighbourhoods covered with houses, where but a few years since were fields? It no longer requires the man of middle or advanced age to recall open spots now crowded with bustling life; the short space of six or seven years has sufficed to convert around London many an acre of long-untouched gardens, fields, and orchards, into streets and roads, crescents, villas, and squares, thickly tenanted by a population which, in spite of the prediction that has been made, that London is doomed in time to be deserted for the country, seems content to live at many miles from real London in order to enjoy the supposed advantages of possessing a *pied-à-terre* in the great metropolis, which daily spreads further its gigantic area, swallowing up remorselessly villages, towns, and suburbs, to afford accommodation for the thousand and the million whom the great resources of the capital, its pleasures, and its wants, draw irresistibly within its huge circumference.

LYE WASTE AND ITS NAILERS.

IT is well for Great Britain that there are not many parts of it which show the phases of life and industry that parts of Staffordshire and its borders do. An iron manufacturing district, however picturesque its nightly presentment, can scarcely be a pleasant or a pretty locality, for it has a tendency to create huge mounds of refuse, to obliterate the green fields, to poison the sources of tree life, and to darken and to vitiate the atmosphere; but, added to these, there are certain characteristics of the iron industry and of one or two of its branches, as carried on in the Black Country, which taint the moral surroundings of the workers. That branch of the industry, and the unpleasant conditions under which it is carried on, may be recognised in half a dozen large villages and small towns between Birmingham and Stourbridge, and one which may be considered typical is the village of Lye Waste.

Lye Waste is a populous place, a mile or two from Stourbridge, and practically the whole of its population, of some 7,000 or 8,000, find support in the branches of the mining and metal trades. It is stated that refugees from Lorraine and Hungary recognised the value of the minerals in the district, and formed an encampment on a tract of ground then lying waste, from which it took its name. These settlers acquired rights to freehold by residence, and 100 years ago they were recognised in Enclosure Acts. Hence the village grew irregularly, and it maintains its irregularity still. Its houses and erections seem of all styles and ages of architecture, from the

single-storied cottage, with dormer window projecting through the thatched roof, to the pretentious Unitarian chapel. The long and straggling street is a medley of dwellings, the cottages, with adjacent smithy, predominating. Gables are thrust in all directions. The builders have formed their own conclusions as to the probable width of the street, and thus groups of cottages, detached dwellings, and occasional inns are congregated at divers distances from each other, whilst above, roofs of thatch, of slate, and of slab, gave variety to the colouring before doubtful dinginess settled upon all. The chief road winds through this long street, but the footpaths are unmade except by the frequent feet that have trodden tolerably smooth paths, whilst the open gutter forms the mode of drainage, and too often where the stable or a nail-shop impinges on the street, garbage dwells. Beyond the two chief streets there seem innumerable by-ways, — to detached forges, dwellings, and to adjacent hamlets. In short, on every hand irregular dwellings abound, usually with attendant nail or chain shops; and the traveller by these paths and the chief streets cannot keep from his ears the metallic ring of the hammer, with the deeper tones of the "oliver," any more than he can close his eyes to the fires that glow in the little forges, to the flames that ever and anon spring from some slight stack of chimneys, or to the sight of the men, women, and children who are engaged at the anvil, the machine, the forge, and the bellows. For in this black country all are "artificers in iron," like Tubal Cain. Male and female of all ages, almost, seem at work in the shops; and if the proportions recorded at the last census be still maintained, five females work in the nail and chain trades for every six men, whilst nearly a fourth of the whole of the recorded workpeople were under fifteen years of age, the females at tender ages preponderating! Here is a small nail-shed, with two young women at work. They are not uncomely, though the arms, bared to near the shoulder, display strength of muscle and sinew that tells of long work,—with a very little exaggeration it might be said that they are "strong as iron bands." A handkerchief confines the long hair, and a dingy apron protects the cotton gown; and thus shielded, one is heating iron at the fire, pulling the bellows lustily, whilst the other is swinging the hammer on the hot rod, and now, deftly removing it, with a foot-treadle she brings into play the heavier "oliver." In another shed we have a woman older and broader built, with an attendant girl,—a child almost; in a third, a girl is working alone; and in a fourth, we have a young man; whilst further down the street there are apparently men and girls engaged in the same shop. In one a chain is slowly taking shape; there, heavy spikes lose their cherry-red colour as they are beaten heavily. But the chief of the productions seem to be gate and hurdle nails; though here and there a few shops are devoted to "Brazil" nails, and horse-nails give employment to not a few, but males only. Except for the variety of the work, and the difference in the disposition of the men and women, the scene is the same at scores, if not hundreds, of these nail-makers' huts, the work continuing far into the night. The village then loses some of its dinginess. Gas is liberally burnt; the open doors of many nail and chain shops allow glares of rosy light, or fitful gleams of paler hue, to fall on the dark pathway; and in the glowing interior, through red-lighted windows, young and old are seen at work, and a merry beating of a hundred anvils keeps up a tinkling chorus, whilst some of the less seemly aspects of the scene are veiled by darkness.

Around and about there are the wonderful haze and halo which transform the Black Country by night. On distant hill-sides the flames issue from the blast-furnaces; and from molten metal running thence, from the long bars that writhe like burning snakes in the rolling-mills, and from the engine-houses of brickworks, there is a glow which lights up the country round and throws into relief tall chimneys with constant streamers of smoke, the whirling wheels of collieries, and now and then the disused ventilating chimneys and the idle "gin" of coal-pits of olden date. The country-side is one continuous mine and metal-working centre,—the little villages where the workers are housed being almost continuous. In nearly all there is the same feature,—the small shop attached to the irregular-built dwellings with the chamber-windows opening outwards in the foreign fashion; the same prevalence of female labour, the same independence of action on the part of the female workers, and often the same idleness and independence on the part of the men.

For this peculiarity of female labour in an unfeminine trade has its darker shades. The rate of wage is small, so small that the young woman working ten hours a day earns often not more than 5s. weekly; and thus it is that as the young grow old enough,—if only to blow the bellows,—they are set to work to add to the income of the family. Father, mother, and possibly three or four children, are all nail-makers; and by and by it happens that the growing lad or lass leaves the parental "hearth" literally, hires a "stall" in some shop, goes to the "fogger,"—the warehouseman who supplies the rod-iron, and gets his or her supply, taking back in due time the manufactured article, from the smallest nail to the many-inched spike. This freedom of action minimises family life, and the earnings of the very young tend to develop that independence. Early marriages result, and when youthful husband and wife both work at the "hearth," when young children early go to the same employment, there can be little home comfort, and there is thus the more excuse for the occasional drunkenness of the man, ending at times in his becoming an idle loafer, lounging, coatless, at the public-house corner for a large part of the time, and subsisting practically on the earnings of his wife and children. Even darker shades of the picture are painted in some of the official reports of the Inspectors of Factories and Workshops; and not in regard to one village only, but in reference to the great bulk of the nail-making part of the Black Country, it may be said, in the words quoted in one of the recent reports,—"Do you call this a free country where women are employed in such trades as these?" Unquestionably what seems a benefit in providing employment for thousands in the district is an evil creating home discomfort and a train of moral and physical evil; weakening, by too early and too prolonged employment, its youths, corrupting and degrading its age, and creating the strikes that seem chronic; and it will be well for the district when the fuller employment of machinery steadies the trade, banishes the "fogger," and sends women to more suitable work.

THE GLASS TRADE OF THE UNITED STATES.

AN interesting report has just been published respecting the present condition of the American glass trade, one of those valuable instalments of industrial information which is the outcome of last year's census. It is difficult to over-rate the importance of these official statements, as advantage has been taken of the occasion to use a machinery of vast comprehensiveness and extent such as has been put motion by no other country. The present report is more than usually interesting, as it is the first inquiry that has yet been made concerning glass, the statistics of which have been till now exceedingly meagre. For the matter of that, indeed, it may be said that the trade itself has been meagre and of slow growth, although it is probably the first industry begun within the limits of the original thirteen colonies, for not many months after the settlement of the English at Jamestown, Virginia, in 1608, or thereabouts, the glass manufacture was started. Glass formed part of the first shipload of exports from that colony, and with the exception of a cargo of sassafras-root from Cape Cod, the first from America.

Considering the respectability of its age, it is somewhat singular that the trade has been of such slow growth, the plate-glass industry being almost a new one, and dating back but a decade, at which time there were only two plate-glass works in the whole of the States, one at Lennox, Massachusetts, and the other at Albany, Indiana. Neither of these two turned out much, and the consequence was that most of the plate-glass was imported. In the financial year ending June 30th, 1870, the imports were 1,428,246 square feet of cast polished plate, not silvered, valued at $820,252. Ten years later, however, things had so far improved that the imports were only 686,694 square feet, valued at $285,259, a decrease of about 52 per cent. in quantity, and 77 per cent. in price. At the present time there are six plate-glass factories, viz.:—Indiana, two; Massachusetts, two; Kentucky and Missouri, each one, representing a capital of $2,587,000, having ten furnaces and 116 pots. The number of *employés* is 956; the annual wages paid, $292,253; and the value of the products, $868,305. This does not include the value of cast plate in course of manufacture, nor of rough plate broken up and used as cullet, but the value of polished plate and that part of the rough plate which was sold. This branch of the trade is likely to be soon materially increased, as new works are being erected at Pittsburg.

The number of factories making window-glass (including cylinder or sheet window), is 56, of which Pennsylvania monopolises 21, the others being in New Jersey 9, New York 9, Ohio 5, Maryland 4, Illinois 3, Indiana, Iowa, Massachusetts, Michigan, and Missouri, one each. The number of furnaces is 86; of pots, 747; the annual production being 1,864,734 boxes of 50 square feet, of the value of $8,047,513. The capital represented by these factories is estimated at $4,872,155, and the number of workers 3,890, the yearly wages being $2,234,295.

The glassware factories producing flint, lead, or lime glass (either blown or pressed), lamp-chimneys, druggists' ware, &c., are more numerous and on a larger scale. These are 82, of which Pennsylvania has 39, New York 15, Ohio 8, Massachusetts 6, New Jersey and West Virginia 3 each, Missouri 2, Connecticut, Columbia, Illinois, Iowa, Kentucky, and Maryland, one each. The number of furnaces is 154, of pots, 1,459; of *employés*, 12,387; while the capital is represented by $7,189,278; the value of the products, $9,536,020; and the wages, $4,446,217.

Lastly come the green-glass factories, producing hollow ware, bottles, and green druggists' ware. Of these there are 50, viz.:—New Jersey 14, Pennsylvania 12, New York 9, Ohio and Kentucky 3 each, Illinois, Maryland, and Missouri 2 each, California, Indiana, and Massachusetts 1 each. The number of furnaces is given at 80; of pots, 493; producing a value of $5,563,826, and employing 6,589 artisans. The following summary shows the comparative revenues of the total glass houses:—

	1880.		1870.
No. of establishments...	194	.....	154
Employés	23,822	.....	15,367
Capital	$19,415,599	.....	$13,826,142
Wages paid	9,112,301	.....	7,589,110
Materials used	7,991,303	.....	5,904,355
Value of product	21,013,464	.....	18,470,507

THE LEITH IMPROVEMENT SCHEME.

THE Local Authority of Leith has taken the first steps for carrying out an improvement scheme under the Artisans' Dwellings Act, obtained through a provisional order granted during the Parliamentary session of 1880. When the proposal was mooted, four years ago, by Dr. Henderson, the provost of the town, there was a general agreement that something in the way of improvement was needed for the central area of the burgh, where the leading streets are very narrow and insanitary. The "closes," a great evil in Scotch towns, were crowded and unsavoury in the highest degree, and as the mortality returns of certain districts showed a most alarming rate of deaths from zymotic disease, the officials, under the instructions of the Town Council, included them in the scheduled area prepared under the Act. When the public was presented with the proposals the greatest indignation was expressed at the extent and costliness of the scheme, and although the authorities brought statistics from other towns, the growing objections to Sir Richard Cross's Act did not suffer any diminution. The plans were emphatically condemned at a public meeting, where resolutions were passed to the effect that while there was need for improvement, the town was not in a position to risk a probable expenditure of a quarter of a million of money. This decision somewhat affected the Council, and little was done until the Home Secretary wrote regarding the steps proposed to be taken. A modified scheme, excluding a number of most insanitary streets, was then prepared, only to be rejected. The third scheme was more acceptable to the public, and at all the ward-meetings of the burgh, resolutions were adopted approving generally of the plans, and urging economy in carrying them out. The fight in Parliament was a sharp but brief one. Mr. Cunningham, C.E., who had been instructed by the Government, reported strongly in favour of the plans, adding some slight reservations as to interference with property. An objector appeared in person before the committee, but as his objections were more devoted to the working of the unfor-

tunate Act than to the merits of the scheme, the committee sustained the contentions of the promoters, and recommended that the order should be given. A question afterwards arose as to the reading of a clause which entitled the Edinburgh Water Trust to receive a certain remuneration for the pipes affected by the scheme; but this point, critical as it seemed at one time, was amicably arranged between the objectors and Mr. T. B. Laing, depute-town-clerk. When the order was passed the local authorities made a bargain with the officials that all surveying, valuing, and legal duties should be done at quarter-fees. This was thought a very handsome and satisfactory arrangement; but when the annual elections took place in November, some gentlemen, who were opposed to every scheme of improvement, obtained entrance to the council, and commenced a course of obstruction, the "house" being counted out after one gentleman had spoken three hours on a mere point of order. The main objection was taken to the payments made to the officials, some members holding that those in the receipt of yearly salaries were not entitled to receive extra payment for work done in the interest of the town, while others held that the arrangement as to quarter-fees was misleading, as proved by the accounts forwarded by the officials. An appeal was also made to the Court of Session by four members of the council, who found themselves with no other satisfaction than paying a sum of money for lawyers' charges. The majority in favour of improvement having prevailed, application for money was made to the Public Loan Commissioners, who gave a sum of 70,000*l.* at a higher rate than was expected. At a meeting last week the Council signed the necessary mortgages, and instructed the officials to carry out the preliminary steps of securing the property within the scheduled area. They had previously offered a premium for the laying out of the district, and already a large number of architects have sent in plans.

The area to be improved lies in the very centre of the town, ranging from Great Junction-street to the Coalhill and Shore. Yardheads, Giles-street, and St. Andrew-street are the principal thoroughfares running through the district, and it is proposed to widen these to a considerable extent. The main part of the scheme is a street running from Great Junction-street, at a point 200 yards westward of the important junction of Leith-walk, diagonally towards Coalhill, striking through Yardheads and the streets mentioned. It is proposed to make this leading street 50 ft. wide, and to convert the whole area adjoining it into building stances. At present goods conveyed in carts from the western end of the town go by way of Tolbooth Wynd and Kirkgate,—steep and narrow roadways. The street proposed will be about three-quarters of a mile in length, and will run from a point near the upper drawbridge. The "closes," which have been the despair of all sanitary reformers in the town, will be ruthlessly swept away, and when it is stated that some of them, having houses four stories in height, are only 8 ft. wide, any person will admit that a clearing away of the rookeries was imperative. In all, 3,000 persons will be dispossessed,—principally of the labouring classes. By the Act the local authorities are bound to supply accommodation to those removed from their houses. This accommodation will probably be supplied at the south-west end of the proposed street, where a large area formerly used as tanworks falls into possession of the burgh. Curiously enough, the first operations will be on the site of St. Anthony's Chapel, one of the most important ecclesiastical edifices in Scotland in pre-Reformation times. The ancient fortifications of the town ran round the extreme boundary of the scheduled area, and the "block-house" celebrated in the French defence of Leith, during the reign of Mary of Guise, was situated close by. The order also empowers the Town Council to remove other historic edifices, prominent amongst them being the Old Tolbooth, the old Parliament-square, with its strangely-decorated houses, and the handsome old building facing the harbour, known as the Council House of Mary of Guise. The Leith Public Library, also scheduled, will, it is expected, be saved from mutilation. The whole scheme is expected to entail a cost of 120,000*l.* The rate is not expected to exceed 3d. per pound. yearly. Learning from others' faults, the Council have adopted the motto, *Festina lente*. Their investigations in London, Birmingham, and elsewhere, have convinced them that it is judicious to proceed with clearing a small portion of the area at a time, in the hope that the whole work may be completed within the thirty years stipulated. The cost of securing the provisional order was 3,800*l.*, nearly 600*l.* having been spent in deputations and similar expenses. Mr. Beatson, burgh-surveyor, who is in receipt of a yearly salary, obtained the sum of 250*l.* for his services in connexion with the various schemes. A curious legal point sprang up when his account was considered, some members holding that the terms of the Artisans' Dwellings Act did not allow payment for work done in the prosecution of an abortive scheme. Legal opinion of the highest kind was taken, with the result that payment of all the sum demanded was made. Operations for clearing the first portion of the area will be commenced at an early date.

LATEST MODE OF RESTORATION.

GOETHE required an edifice to be so perfectly beautiful that even a blind man shall perceive and appreciate its beauty. It sounds absurd. But a moment's reflection tells us that it applies to highest symmetry of internal arrangement, and the demand, therefore, is by no means so unreasonable as at first sight appears. The dictum is characteristic of Goethe, who worshipped order, and preferred the Romans to the Greeks, asserting that he had himself lived on earth before in the time of Hadrian. But in Heidelberg a novel application has lately been made of the Goethian dictum.

Heidelberg has its university, and among the German universities, some twenty in number, competition, polite but ceaseless, furious and jealous, prevails. Each seeks to gain the most illustrious lights of learning, and outshine its brethren, and the students, of course, flock round the greatest names. Fame and fashion, no doubt, play herein as great a part as real teaching and learning power, but money certainly the chief. The higher the emoluments attached to a chair, the more learned its occupant, the larger the number of students, and the grander, more renowned, and in every way more illustrious, the university. And as each university draws its revenues from the one or the other State, the rivalry extends to the various governments, each fostering its high school, financially, to the utmost of its ability. And, of course, the citizens of the university town are equally interested in the matter, for the money, after paying for all the wisdom of Germany, eventually, one way or the other, finds its way into their pockets. Heidelberg, for example, not being a manufacturing town, is largely dependent for its prosperity upon the university with its students and foreign visitors. So much is this the case, that the town has just erected barracks, bought a large exercising-ground and rifle-range, and made a present of the whole to the Government, in order to obtain a garrison. And it pays. It is a method of rendering the huge German army useful to at least some people. Then there are the professors, the most abused and ridiculed race under the sun, especially in former times in Germany. With Professor Teufelsdruckh and Hofrath Heuschrecke, most illustrious specimens of the order, may fairly be compared Professor Kopfer, who some years ago astonished the German world with the discovery of the "Trinity of the Devil," as if to every reasonable mind unity in this respect was not sufficient, and even more than sufficient. Professor K. was a man of extraordinary erudition, but his idea has not been universally accepted. German professors, as a class, deserve our highest respect; and especially courteous are they to foreign students. But they are indeed human, and between themselves as much, or even more, jealousy prevails than among certain learned colleges and societies at home. Each wants to burn his own candle most bravely. But surrounded by a hundred or a thousand other torches, all flickering, flaring, and spluttering to utmost individual ability, how, in such a blaze of light, shall his shine with due, that is, pre-eminent, glory? Extinguish them all! There is some use in darkness. So all the rest ought to be extinguished in order that his beam alone amidst the universal gloom. But this not being possible, one university must wholly outshine the rest. It is the first duty and object of a German university to reduce all the others to comparative obscurity. The reader will now be fully able to appreciate an event,—a calamity,—that has thrown the whole world into consternation,—that is, in this small part of the world,—Government people, professors, learned and unlearned.

Heidelberg has its library, the famous Bibliotheca Palatine, rich in precious manuscripts. And this ever since last summer has been undergoing a process of restoration, including, amongst other things, the construction of a fire-proof chamber. An excellent idea. We remember with sorrow the fire at the Midland Institute in Birmingham, and wish with all our heart every great library had its fire-proof chamber. Well, the restoration, at considerable cost, was completed, or at least supposed to be so, and the library again thrown open daily. Readers who had long been restricted in their attendance again rejoiced. But not for long. In less than a fortnight the library is again closed. To universal astonishment, it is declared to be *baufällig*, ruinous, decayed, tumbling down. And this after architects and builders had been at work at it for six months!

A commission is instantly summoned to search and examine, and pronounce it to be in such a dangerous condition as not to be entered without risk of life. The restoration is declared to be finished. It is perfect, complete, and nothing remains to be done but to take down the edifice and erect a new one at the cost of a million of marks. Meanwhile the 200,000 volumes are to be fished up out of the ruins and put away somewhere for an indefinite period. The Government of the little state, having no money, are aghast, the burghers are aghast, for all the students will leave, and the professors are,—unanimous. And, most distressing, it is nobody's fault; not in the least, so there is no consolation at all. The builder has only fulfilled his orders, and his work is irreproachable. But the architect? Well, what architect can possibly be responsible for ancient foundations? He did not lay them. And after the lapse of centuries who shall venture to say what weight they will or will not support? One must try. Who shall say what our poor relations in hopes of a legacy, or an elderly damsel who thinks herself charming, will or will not stand? Try, indeed! Foundations, dear my lord, foundations! it is a chapter profounder than the wit and wisdom of man has ever yet penetrated. What, indeed, the Baden Landtag, who will have to vote the money for a new edifice, may say on the subject, matters very little. The restoration of the Bibliotheca Palatine has been fundamentally accomplished. And only the moral remains, that, though new houses really need no foundations whatever, or mere supporting, if only disposed of in time, those of ancient edifices must be thoroughly examined before restorations! Which, of course, is perfectly practicable.

CEMETERY SCULPTURE IN ITALY.

THE Camposanti of Italy have always been visited for the beauty of the funereal monuments they contain, and in the erection of which art has been greatly assisted by filial and loyal piety. But in bearing this testimony to this characteristic bent of the Italian mind, it must not be forgotten that the rearing of such mementoes there is greatly facilitated by very fortunate climatic conditions. The sunny climate of Italy favours the employment of marble and other material of delicate texture, while our atmospheric surroundings compel us to confine ourselves to materials of a more homely and substantial nature. Hence the absence in England of sumptuous monuments such as we see in the cemeteries of the South. In our present issue we give illustrations of monuments from two of the Camposanti of the North of Italy.

THE CAMPOSANTO OF GENOA.

From amongst the many monuments in the Camposanto of Genoa, we select that erected in honour of Sig. Noceti, a wealthy Genoese merchant, who died about four years ago without leaving any near relations. He bequeathed the whole of his fortune to the Infant Asylum of Genoa and other philanthropic institutions of the city, with the only proviso demanding a record of the gift to his memory. His executors thought that no more fitting tribute could be paid to the testator than by erecting the simple yet impressive monument of which we give a view. The work is in marble and bronze. Over

the bust, which is of colossal proportions, leans the Genius of Benevolence, who places a wreath upon the forehead. The monument was designed and executed by the sculptor Pietro Costa.

THE CAMPOSANTO OF TURIN.

The funereal monument which was raised in the Camposanto of Turin in honour of the Cavaliere Carlo Sada, the accomplished architect, who died in 1873, and of part of which we give a view, was the work of the eminent sculptor Giulio Monteverde, and was raised in 1877.

The late Cavaliere Sada was the architect of the Casa Reale, and of the theatre of Alessandria, the cemetery of Savona, and the church of San Massimo in Turin, in the Camposanto of which his ashes rest. The monument erected to his memory has a height of nearly 20 ft. from the base, the statue being about a third larger than life-size, and consists of an ample sarcophagus raised upon a base. About the sarcophagus are scattered various architectural objects, amongst them a fragment of a cornice and an overthrown capital, which serve as a support to the figure of Sadra. Upon the sarcophagus is seated a representation of Architecture,—a figure of a young girl, her head crowned with a wreath of oak-leaves, and her sad look cast down upon the statuary below her. We give an illustration of this figure, which is noticeable in respect both of conception and execution.

HOSPITAL FOR THE SICK POOR OF THE PARISH OF ST. MARYLEBONE.

THIS building, which is to be opened by their Royal Highnesses the Prince and Princess of Wales, on the 29th, has been erected for the accommodation of 744 sick poor of the parish of St. Marylebone.

The foundation-stone was laid July 7th, 1879, by Mr. Edmund Boulnois, M.A., J.P., chairman of the St. Marylebone Board of Guardians.

The building has been designed, and its erection superintended, by the guardians' architects, Messrs. H. Saxon Snell & Son. The builders are Messrs. Wall Brothers, and the subcontractors for sanitary, heating, cooking, and gas works, and the machinery and furnaces, are Messrs. Benham & Sons, Bradford & Co., Bolding & Sons, and Mr. Edward Howard.

The contracts for the whole of the works, including sanitary appliances, fittings and fixtures of every description, and gas, water, and blinds, amount to nearly 118,000*l.*, or about 150*l.* per bed.

The following description of the building, of which we publish a view, is founded on a report prepared by the architects. Detailed particulars, with plans and views of the building, are given in a work written by Mr. H. Saxon Snell, and published by Messrs. Batsford, of High Holborn, which will have our attention in due course.

General Arrangement.—The general arrangement comprises, first, a block of buildings situated at the entrance, and containing the residences of the medical officer, matron, and assistant medical officer; and over the arched carriageway in the centre there is a chapel capable of accommodating about 180 people. Immediately opposite this entrance-gateway is a block of building standing centrally on the site, and containing all the administrative offices; and at the rear are the engineers' shops and the furnace and boiler rooms, adjacent to which is a large tower with a furnace-shaft in the centre, round which winds a staircase leading to the laundry, washhouse, and drying-ground situated on the upper stories. The mortuary and engineers' house are situated to the right and left of this rear building. The entrance-hall and reception-wards for both sexes are situated in front of the administrative offices, and from this portion of the building, running right and left, are two corridors, 10 ft. wide, leading on either side to two double pavilions for the reception of male and female sick respectively. All these double pavilions are three stories in height, are similarly arranged, and consist of two wards, each 84 ft. long, 24 ft. wide, and 13 ft. high, with bath-room, water-closets, and lavatories leading out of them at the extreme ends, but cut off, as it were, by a narrow lobby having windows for cross ventilation on either side. All these offices will be kept warmest to a higher temperature than that of the wards, not only with a view to the better comfort of the patients, but to induce a current of air from the ward through the ventilated lobbies rather than in a contrary direction. In the central portion of these pavilion buildings there is on each floor a day-room for the patients, two nurses' duty rooms, and three small wards for the separation of special cases, also the staircase, both the steps and landings of which are supported by brickwork vaulting, thus rendering these parts of the building fireproof. The well-holes round which the stairs wind are enclosed by brick walls, and contain the hydraulic lifts which ascend from the ground to the upper floors. These lifts are not worked by chains, but by hollow iron rams which descend into wells to a depth corresponding to the height through which the cages are capable of being lifted.

Ventilation.—The ventilation of the wards is effected by natural means, and is dependent, therefore, upon the very simple and well-known fact, that (*cæteris paribus*) heated air will always rise to a point higher than that of the colder air surrounding it, and that in its passage it will carry with it noxious gases and other deleterious matter which would otherwise, by reason of their greater density, remain stationary or descend to the floor-level. If any pair of beds be moved forward into the room it will be seen that next the wall there is a skirting-box, with a panelled front, and that the panels immediately under the heads of the beds are formed of perforated zinc. This box is easily lifted out from its position, for the purpose of cleaning; but when in its place it covers an aperture in the floor, from which a ventilating-pipe descends in a slanting direction to the outside of the wall, and through this pipe the external fresh air is admitted, first into the skirting-box, and then out of it through the perforated zinc panels (situated under the heads of the beds) into the room. Looking upwards it will be found that the ceiling, directly over each pair of beds, has a perforated zinc panel running the whole width of the ward, and on lifting up a portion of this panel next the wall it will be seen that the perforated zinc covers a channel the full depth (12 in.) of the floor, and that this channel communicates with a large shaft running up the wall, like an ordinary chimney-flue. In the case of the top floors the arrangements are similar; but the air-channel runs horizontally down the centre of the ward. Now, returning to the skirting-box, it will be obvious that a greater part of the fresh air passing into the room through the perforated front of this box, and immediately under the head of the bed, would be drawn upwards, and passing through the perforated zinc of the ceiling panel, be conveyed through the upright flue, and find an exit at its termination, and it is contended that the air in thus passing upwards from the skirting-box to the ceiling must encircle, as it were, the space surrounding the bed of the sick patient, and carry away with it such emanations as there may be. The general ventilation of the wards is supplemented by the central stoves, hereafter described, and also by up-cast shafts in the side-walls.

Warming.—The fire-grates standing in the centre of the wards are the invention of the architect. They consist of an open fire at front and back, and the flues from them descend and pass right and left under the floors to the outer walls, in which they are continued to the chimney-shafts above the roof. The novelty of their construction, however, consists of the sides, back, and top of the fires being surrounded by a wrought-iron casing, containing water, and that at the sides of the stoves there are two upright coils of pipes, through which this water, when heated by the fires, circulates. Thus the whole products of combustion are utilised for heating purposes, and it will be seen that as the water cannot attain a temperature higher than 212° Fahr., the iron over which the air passes cannot be so heated as to burn the air impinging against its surface. Another advantage offered by this plan of heating is that a vase on the top of the stove contains the water rising from the lower part, when it is expanded by the heat of the fire, and that this water being warmed a slight vapour arises from the vase, which serves to moisten the air of the wards. It should not be forgotten also to add that a channel runs under the floor to each side wall and communicates with the outer air, thus forming a passage way for fresh air to pass from the outside round the stove and the heated coils of pipes into the room. Stoves with descending flues are generally found to smoke when the flue gets cold through the fires being neglected or from their being let out during the night, but this difficulty has been combated by encasing the horizontal iron flue-pipes in sand as they pass through the floor. The sand retains the heat of the flue for many hours, and it is only once therefore it is supposed, if at all, and then at the beginning of the winter, that the flue will require "piloting."*

Lighting.—The whole of the building is lighted by gas, and the burners in the wards are placed under inverted enamelled iron basins, from the upper part of which pipes, 3 inches in diameter, are carried along the ventilating ceiling channels into upright flues in the side walls, with the view of carrying off the products of combustion.

Water Supply.—The water for the general use of the establishment will be supplied by an artesian well, but a connexion is made with the mains of the Grand Junction Water Works Company, which can thus be made available in case of fire or during the necessary periodical stoppage of the well-pumps during repair. The upper part of the large main tower contains cisterns for the storage of from two to three days' supply. This tower also forms a chimney-shaft for conveying away the smoke from the furnaces of the steam boilers, cooking apparatus, &c. Fire-mains are carried through every part of the building, and hydrants are placed on each landing of the staircases of the pavilion wards, and also at various other parts of the building.

Drainage.—The drainage of the building is effected by means of glazed earthenware socketed pipes, laid to a fall of not less than 1½ in. to 10 ft., and carried into the newly-constructed sewer running down the centre of the road-way fronting the building.

The number of sick for which accommodation is provided is 744. Super. feet of site per head, about 188; super. feet of covered buildings per head, about 82.

Estimated number of resident officers and servants, 58; ditto, ditto, of non-resident officers, including washer-women, scrubbers, &c., 47.

Number of sick and resident officers taken together, 802. Super. feet of site per head, about 175; super. feet of covered buildings per head, about 75.

The number of sick in the large wards is 28, the superficial space being 72 ft., and the cubical space 936 ft. per head. Each separation ward is designed for two patients, the space per head being 100 ft. super. and 1,300 cubic feet.

Area of site, 140,280 super. feet=3 acres 35 perches=3¼ acres nearly.

Area covered by buildings, 60,521 super. feet =1 acre 1 rood 22 perches=three-sevenths of the whole site.

Area of gardens, yards, &c., 79,759 super. feet =1 acre 3 roods 14 perches=about four-sevenths of the whole site.

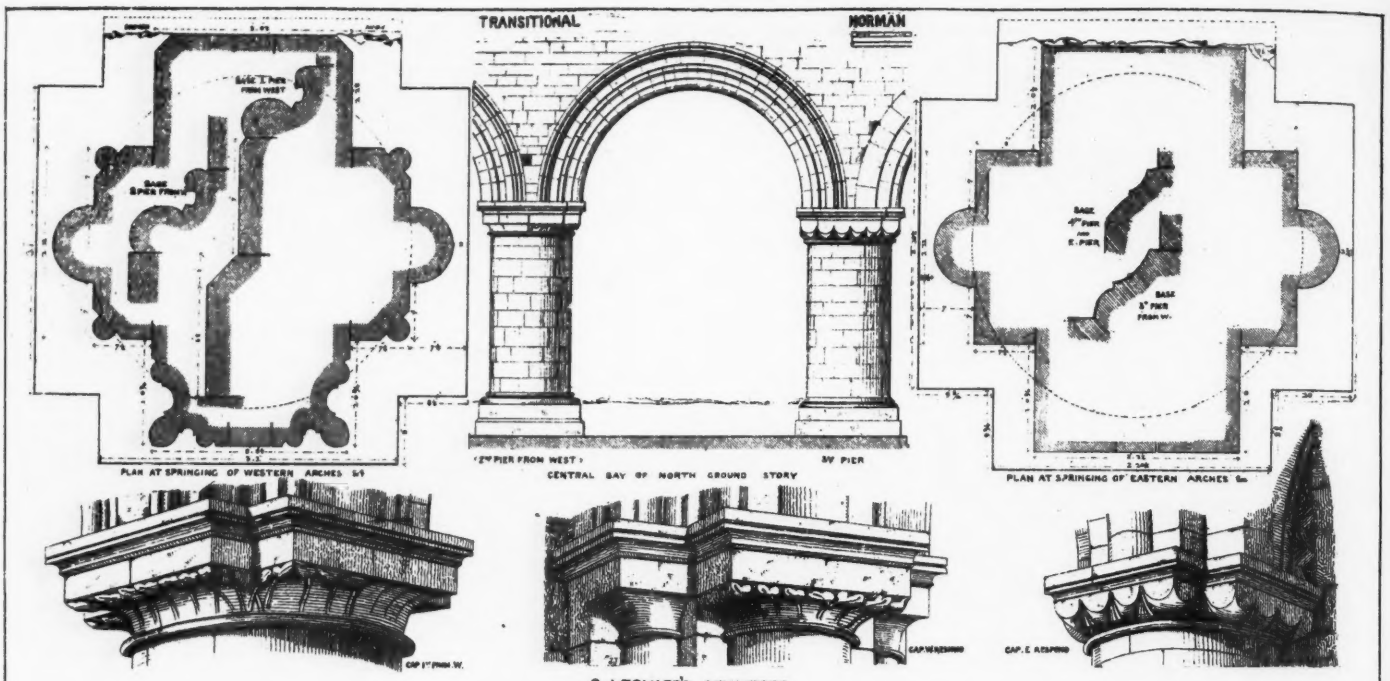
RESTORATIONS AT THE ROYAL EXCHANGE.

CONSIDERABLE repairs are found to be necessary at the Royal Exchange, the carrying out of which has been entrusted to Messrs. W. Cubitt & Co. Scaffolding has been erected at the Threadneedle-street and Cornhill frontages, as well as in front of the elevations inside the open area, at all of which the work of restoration is now proceeding. At several points on the respective frontages, both as regards the main face of the elevations and the columns, capitals, and cornices, the stonework which has been found to be decaying is in course of removal, and is being replaced by new blocks. We understand that the covering in of the area of the Exchange, which has been urged upon the Exchange authorities by a number of City merchants, is now under consideration, and that there is some probability of its being ultimately carried out.

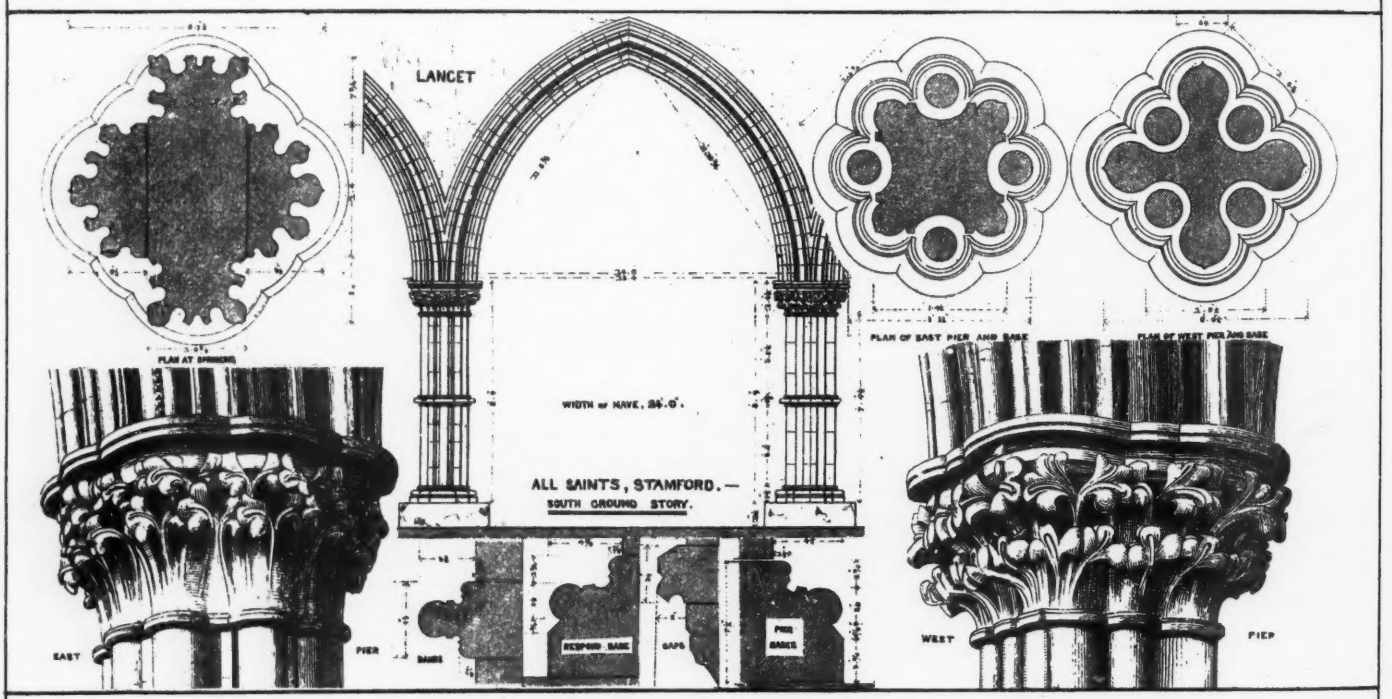
Stationers' Hall Court.—The *Bookseller* says that the lofty plane-tree which stands in the little enclosure beside Stationers' Hall is doomed to destruction, owing to the necessity for throwing back some of the adjacent houses in order to widen Amen-corner and Ave Maria-lane. The tree is stated to have been planted only seventy years ago.

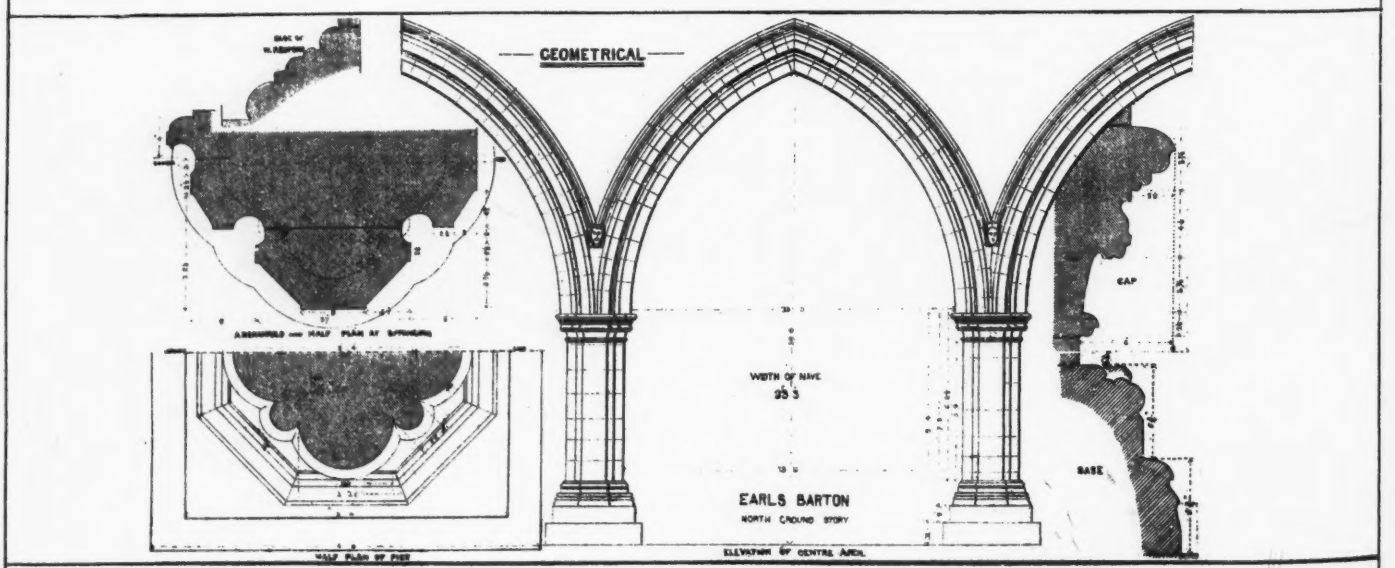
* These fire-places, known by the name of "Thermhydric Grates," are manufactured by Messrs. Potter & Sons, South Molton-street.

CEMETERY SCULPTURE IN ITALY: FIGURE OF ARCHITECTURE FROM THE MONUMENT TO THE CAVALIERE SADA, ARCHITECT, TURIN.—SIGNOR GIULIO MONTEVARDE, SCULPTOR.


TRANSITIONAL
NORMAN
PLAN AT SPRINGING OF WESTERN ARCHES
CENTRAL BAY OF NORTH GROUND STORY
PLAN AT SPRINGING OF EASTERN ARCHES

S. LEONARD'S, STAMFORD.





+ FROM "CHURCHES OF THE NENE VALLEY", NORTHAMPTONSHIRE. + BY MESSRS J. JOHNSON & A.H. KERSEY, ARCHITECTS. +

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Whiteman & Bass, *Photo-Litho* 236, High Holborn

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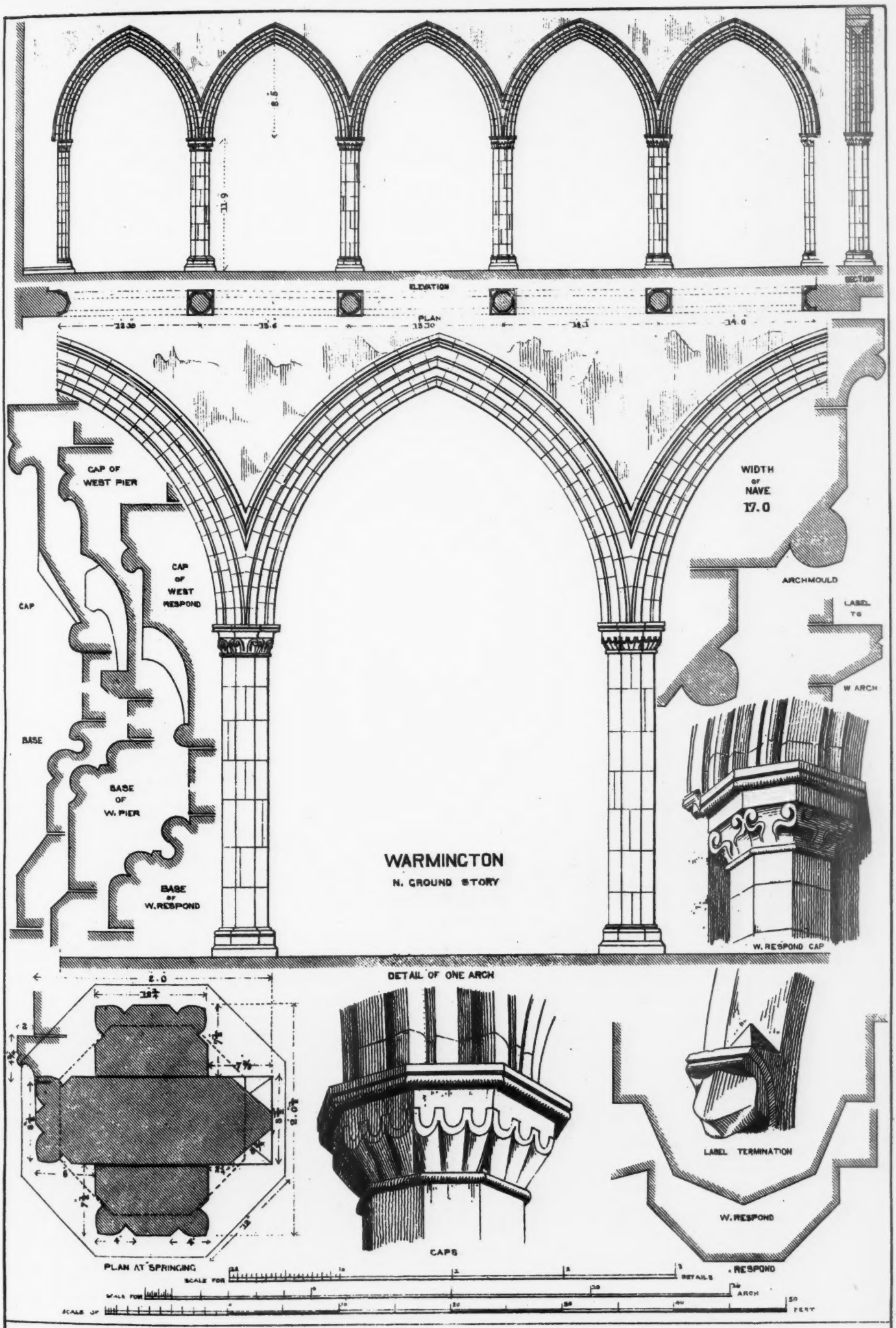

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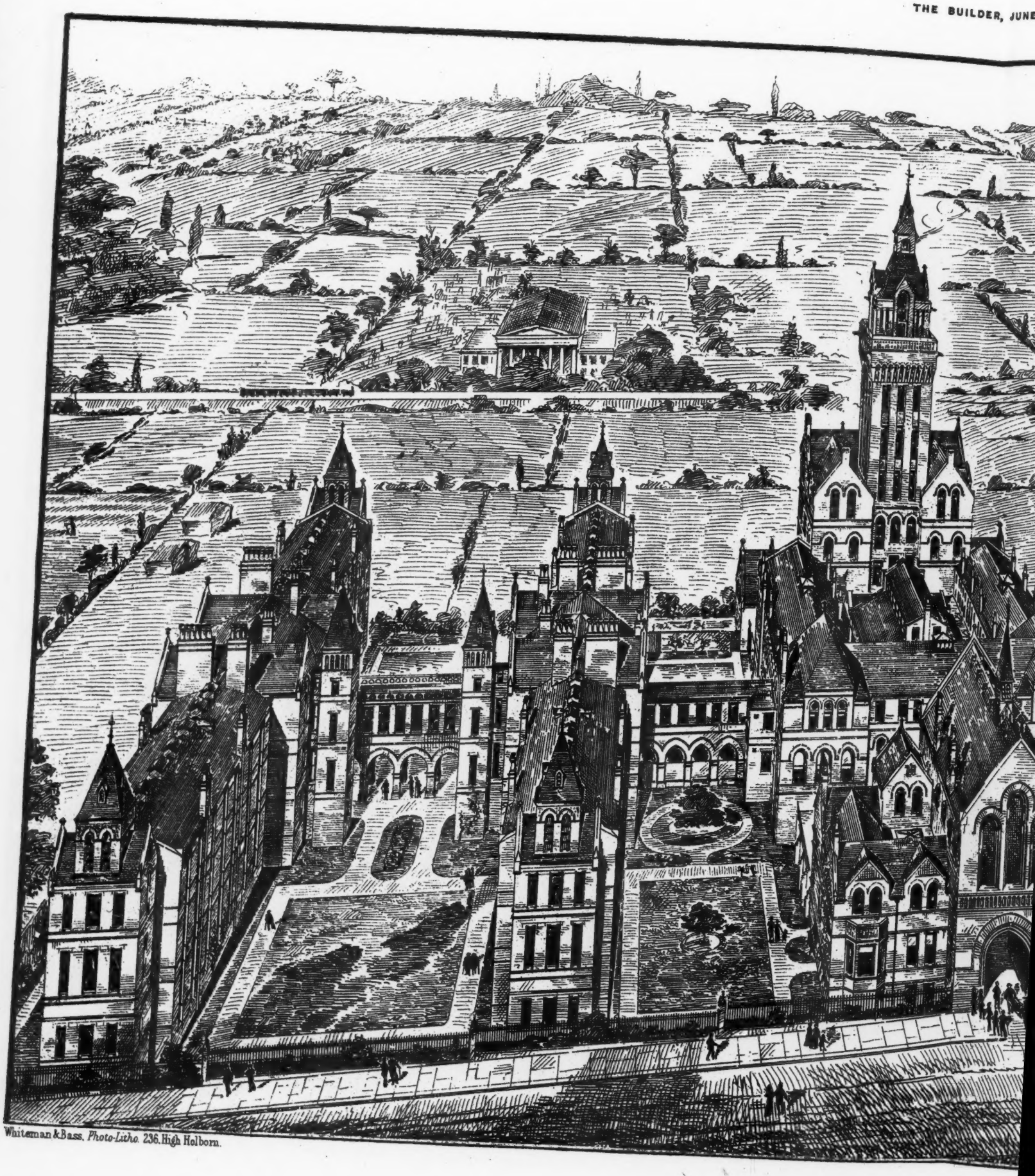

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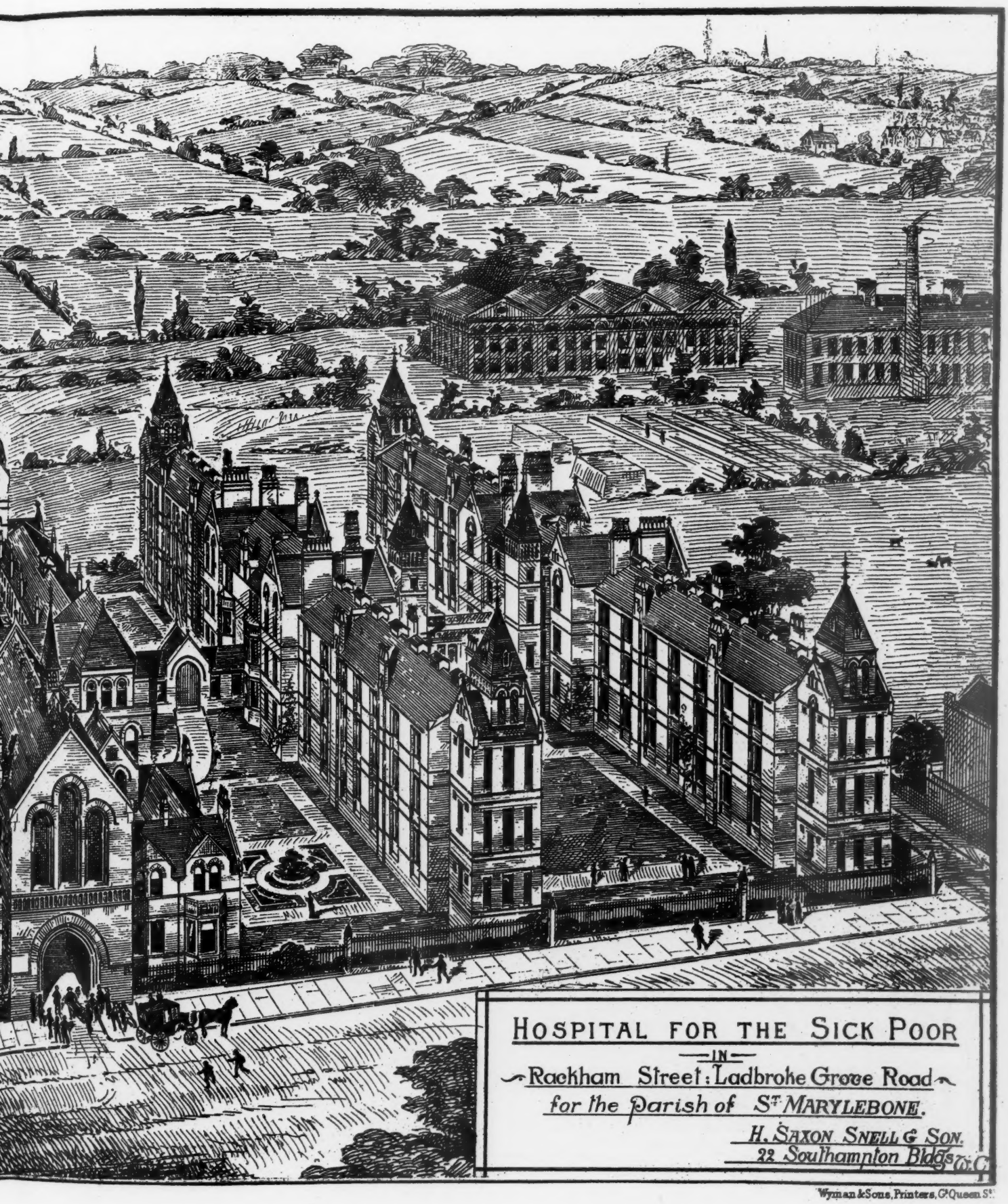

HOSPITAL FOR THE SICK POOR

—IN—

Rackham Street: Ladbroke Grove Road

for the Parish of St MARYLEBONE.

H. SAXON SNELL & SON.

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CEMETERY SCULPTURE IN ITALY: THE NOCETI MONUMENT, GENOA.

SIGNOR PIETRO COSTA, SCULPTOR.

LANCING COLLEGE, SUSSEX.

ON Wednesday, the 15th inst., the Provost and Fellows of Lancing College gave invitations to friends to meet the Bishop of Chichester, the Visitor, at the dedication of the new schoolroom and class-rooms, erected at the cost of Mr. H. M. Gibbs, of Tyntesfield, an old "Lancing Boy," and now a Fellow of the Society. Persons present were further asked to see for themselves the progress which has lately been made with the great chapel and other buildings which have for some years been in progress.

In planning the new schoolroom and its class-rooms, the object aimed at has been to combine a great room for assembling the school and for examinations with a set of class-rooms in connexion with the schoolroom, so that all may be under the eye and immediate superintendence of the head-master. The great schoolroom is placed on the ground-floor of the upper quadrangle, the southern gable being in the centre of its northern side, while the mass of the school buildings extends northwards beyond the block of side buildings of the quadrangle. The room is 110 ft. long by 33 ft. wide; it is open to the roof; the height to the wall-plate is 22 ft. 6 in., and to the apex 45 ft. On each side of it are six class-rooms, of which ten are 20 ft. 6 in. by 16 ft. 3 in., and the remaining two are 25 ft. by 19 ft. The style of architecture is Decorated, and in harmony with the rest of the college buildings; the open roof follows the style of that at Penshurst Place, in Kent, one of the most beautiful specimens of domestic architecture of the Decorated period. The room is lighted by large three-light windows on each side, rising up into the roof, with tracery heads; the cills of these windows are 17 ft. above the floor, and so arranged as to come between the gabled roofs of the class-rooms below. The entrance is at the southern end by an octagonal porch attached to the cloister round the quadrangle. This porch has open arches, with buttresses at the angles, and over it is an upper story opening by a wide arch into the gallery in the schoolroom; each side has a richly-traceried window, and over these is a pyramidal roof covered with oak shingles, which rises in front of the great southern gable of the schoolroom. The class-rooms have gabled roofs facing east and west respectively. Below the eastern class-rooms is a series of music-rooms, opening into a narrow cloister, the pointed arches of which support the class-room walls above. This forms the side of a small quadrangle, which will be hereafter completed; it is reached by a large turret-staircase down from the level of the upper quadrangle, and these stairs are carried up two stories higher than the quadrangle to reach sets of masters' rooms on these upper floors.

The schoolroom walls are faced externally with flints and stone, and lined internally with Sussex sandstone and with panelling of English oak; this panelling is 14 ft. high, except at the northern end, where it rises to a height of 22 ft. At the southern end the panelling returns across as a front to the gallery, forming also an inner lobby with swing-doors to the entrance. Over the head-master's seat, on the dais at the northern end, under carved canopies, are figures of the Virgin Mary and St. Nicolas, with the college motto, "*Qui diligit Deum diligat et fratrem suum*," and the arms of the college will be carved on the shield between the figures. These are executed by Messrs. Farmer & Brindley, of London. The windows are glazed with cathedral glass, in varied designs, and the floor is laid with solid oak blocks, arranged in patterns. The class-rooms are entered from the school-room by curtained doorways. They are lined with oak boarding, and have similar flooring to the school-room. There are sets of desks and forms on the dais for the head-master's class, and a series of blocks of seats and desks down each side of the school-room, while in the class-rooms the desks are arranged round the walls on three sides, facing the master, excepting the two larger mathematical rooms, where they are arranged across. All are of oak, and are executed by Mr. Foster, of Kempston, and Mr. Shearburn, of Dorking. The school-room is lighted by pendant brackets of bronze, of six lights each, and each of the class-rooms by a bronze pendant of three lights. These are executed by Messrs. Singer & Sons, of Frome. The heating is partly by pipes underground, in addition to coils of pipes placed against the walls. The cost has been upwards of 15,000*l*.

The Chapel.—A great part of the outer walls is now over 45 ft. above the floor of the choir, making the total height at the eastern end from the bottom of the foundations some 120 ft., bearing in mind that below the choir-floor there is the crypt, nearly 20 ft. high, with foundations some 60 ft. under it, resting on the solid chalk. The walls of the chapel proper are at present built for about half their thickness. They are faced with Sussex sandstone, as the inner walls and pillars will be. The southern windows fixed are those of the south aisle and base of the south-eastern tower, with the corresponding windows of the north aisle and north-eastern tower. The apse has plain unpierced walls, until the triforium stage is reached. Of this stage there are now fixed the bases and sills of the windows. At the springing line of these small windows, the inner wall will be attached, and both carried up together in the clearstory stage, with the buttresses and flying buttresses over the aisles. The inside length of the chapel (exclusive of the ante-chapel) is 178 ft. 6 in., and is divided into ten bays, inclusive of the towers at the east end of the aisles; the apse has five bays beyond. The total width is 64 ft., of which the choir is 34 ft. The ante-chapel will have aisles as the chapel, and on the north side of it, and opening into it, will be the great tower, 250 ft. in height. The great doorway will be in the south wall of the ante-chapel, and there will also be an entrance through a cloister under the common room and the ante-hall. The design is in the Geometrical Decorated style. The windows in the aisles are of three lights, and in towers of two lights, with cusped circles in the heads. The great clearstory windows will have four lights, excepting in the apse, where there will be two-light windows. The triforium gallery will be continued all round the building, and by a passage in the thickness of the wall round the apse. At the west end there will be a double triforium over the cloister, with a fireproof muniment-room. The total height of the bosses of the vaulting from the choir-floor will be 91 ft., out of which the arcades are 44 ft. high, with a triforium 10 ft. above.

All the works of the school and chapel have been carried out (except those specially mentioned) by the college workmen, from the designs and under the superintendence of Mr. R. Herbert Carpenter and Mr. Benjamin Ingelow, of London, the college architects, and under the constant supervision of Mr. W. B. Woodard, Fellow and Custos of the College, Mr. Knight being the clerk of the works.

The society is proceeding with other works in addition to those at Lancing. At Ardingly College the Lower Middle-class school for the South, new dormitories and masters' rooms have been built, and the chapel is nearly completed, the central tower being carried up to the roof ridges. At Ellesmere, in Salop, a school for 500 boys of similar grade to that at Ardingly, there is in course of erection a block of dormitories and masters' rooms, the hall, ante-hall, and offices. At Denstone, a Middle-class school for the Midland counties, the chapel is being added to the completed school buildings; and at Abbots Bromley, near Rugeley, dormitories have been built for the Middle-class girls' school, and the chapel with its ante-chapel is now on the eve of completion. All are being carried out under the college architects, Messrs. Carpenter & Ingelow.

LINCOLN DIOCESAN ARCHITECTURAL SOCIETY.

THE annual meeting of this Society was held at Sleaford last week.

The *Parish Church*, which is dedicated to St. Denis, was visited on the first day (Wednesday) and described by Mr. Charles Kirk, M.A., architect. From a manuscript found in the parish chest it appears that the church was built in the year 1271, by Roger Blount and Roger Brickham, of Sleaford, merchants. Some years ago it underwent a complete restoration, under the direction of Messrs. Kirk & Parry, at a cost of nearly 3,500*l*. Taken as a whole, the church is remarkable for the beauty and variety of its Decorated window tracery and the excellence of its mouldings. The plan comprises a nave, with a double north aisle (of which the northernmost is modern, retaining the original windows); a south aisle, north and south transepts, chancel, west tower and spire, and south porch. The western *façade* is a somewhat confused composition, but with its richly-carved parapets, curious central bell-cotes, exquisite angle pinnacles, well-designed doorways, and enriched niches, is one of much stateliness. The lower part of the tower, with its flanking arches, is Transitional. It has a Perpendicular west window and stone vaulting within. The upper stage is Early English. The broach spire, which rises to a height of 144 ft., belongs to the same style, of which, though stunted in outline, it is a very good and valuable example. The large and lofty nave, with the aisle and transepts, is entirely Curvilinear Decorated. The elevation of the south aisle is of remarkable beauty. The tracery of windows generally is of great variety and value. The large six-light north window of the transept was regarded by the late Mr. Edmund Sharpe as one of the finest in its style in the kingdom, ranking the fourth in order, and only surpassed by the east windows of Carlisle Cathedral, Selby Abbey, and Heckington Church. The nave clearstory is a Perpendicular addition of much richness. The water-table bears the inscription, "Here lyeth William Harebeater and Elizabeth his wife. Cryest Jhu graunte you everlastynge life." The chancel is Perpendicular; good, but not of the interest of the nave. It has a rood-screen of much interest, pronounced by Pugin to be one of the most perfect in England, with a double rood-stair. At the west end of the north aisle, a buttressing arch, resembling those of the crossing of Wells Cathedral, is an interesting feature. The monuments of the Carre family (now represented by the Marquis of Bristol), though late, deserve attention. One of them has much mutilated recumbent effigies of Sir Edward Carre, Kt., and one of his wives. The pleasing appearance of the interior of the church and the excellent state in which the fabric is kept were greatly admired by the members of the society and visitors.

After the church had been described by Mr. Kirk, some of the company availed themselves of a brief interval which was afforded for viewing the town and the site of the *Castle*, of which nothing remains except the ditches, earthworks, the mounds and hollows of its uprooted foundations, and a fragment of the north-east tower. The manor of Sleaford was granted by the Conqueror to Remigius, on the removal of the see from Dorchester to Lincoln. The first castle was erected by "Alexander the Magnificent," *c.* 1130, at the same time with the castles of Newark and Banbury.

Carriage excursions were made to Asgarby (the church of which place was restored in 1870), Great Hale, Howell, South Kyme, Anwick, Ewerby, and Kirkby Laythorpe, in which villages the churches and other buildings of interest were examined. (A detailed report is given in the *Lincolnshire Chronicle* for the 17th inst.)

On the second day (Thursday) there was an excursion to the following villages, viz.:—Quarrington, Silk Willoughby, Swarby, Aunsby, Dembleby, Newton, Walcot, Folkingham, Billingborough, Horbling, Swaton, Helpringham, and Burton Pedwardine, returning about six o'clock to Sleaford, where an evening meeting was to be held in the Corn Exchange at eight o'clock, when papers were read "On the Dedication of the Churches of Lincolnshire as illustrating the History of the County," by Mr. Thomas Kerslake and Precentor Venables; and on "Kyme and its Tower," by Mr. Charles Kirk, M.A.

THE NORTHAMPTONSHIRE ARCHITECTURAL SOCIETY IN MARSH-LAND.

THE annual excursion of the Architectural Society of the Archdeaconries of Northampton and Oakham was made last week, on the 14th and 15th inst., to Wisbech, for the purpose of inspecting some of the Marsh-land churches.

It may not be generally known where Marsh-land is situate, and it therefore becomes necessary to explain that, in the tract of flat fen-land, between the outfalls of the rivers Ouse and Nene, is to be found that part of the county of Norfolk known as the Hundred of Freebridge Marsh-land, and which abounds in attractions of antiquarian and architectural interest unsurpassed by any district of equal extent in the Midland or Eastern counties.

The visitors arrived in Wisbech, which was the centre of operations, by an early train, and, having partaken of luncheon at the Rose and Crown Hotel, carriages were quickly in readiness for the journey which had been arranged. A goodly company was in attendance,

and a move was at once made for *Walsoken*, a parish which abuts upon Wisbech, from which town the parish church, said to be one of the finest in England, is distant a mile and a quarter. A few minutes sufficed to bring the tourists to their first halting-place. Having reached the church, dedicated to All Saints, they were met by the Rev. J. Young (rector) and party, and conducted over the building. It is probable that the church was built by an Abbot of Ramsey, to whom the principal manor in the parish was given by Ailwin, Duke of the East Angles, in 1069. It consists of a nave, with north and south aisles, and chancel, on either side of the latter being a chapel, that on the north being dedicated to Our Lady. There is a massive western tower. Seven fine Norman arches divide the nave from its aisles on either side. The clearstory is a very fine example of the Perpendicular style, and the carved oak roof is wonderfully perfect, and in good preservation. The chancel arch is a beautiful specimen of transition Norman work, the chevron ornament being introduced in a pointed arch. Some beautiful carved screen-work separates the chapel on either side from the nave. Some fine remains of the rood-loft are worthy of notice, and a few traces of ancient stained glass may be found.

The party next proceeded to *West Walton*. The church is dedicated to St. Mary, and is a fine specimen of the Early English and Decorated styles. The tower is detached, and recalls the famous bell-tower at Evesham, to which it bears a strong resemblance. There is a sculptured monument in the north aisle, much mutilated, and evidently removed from its original place on the north side of the chancel. According to Bloxam it is the representation of an Abbot of Ely, and very probably of the founder of the church, which resembles the Presbytery of Ely Cathedral. There is a very fine southern porch, and traces of a similar feature on the north side of the church. The west front is interesting to a degree. The visitors were met by the Rev. W. Browne, rector. It is much to be regretted (says the *Northampton Herald*, from which journal this report is condensed), that so fine a church is not in the course of restoration.

Journeying along the old Roman bank, a wall erected for the purpose of protecting t e broad acres of the district from the encroachment of the sea, a pleasant ride of three miles found the tourists at *Walpole St. Peter*. The church is one of the finest Perpendicular churches in Norfolk. Its south porch is enriched with heraldic tracery. The western tower, which is embattled, is the sole remnant of an earlier edifice in the Decorated style. A Sanctus bell exists in a fine turret over the chancel.

Walpole St. Andrew was next reached. The church is a good specimen of late Perpendicular architecture, and at the base of the western tower is a chamber said to have been inhabited by a recluse. From data which came to the knowledge of the visitors the building of the church may be fixed as having taken place between 1450–1500.

The next place visited was *Terrington St. Clement*, which has a very fine church in mixed styles of architecture. The party were met by the Rev. M. Crosse, vicar, and Dr. Seccombe, churchwarden, and conducted over the building, each of its many interesting features being ably explained. There is a detached western tower and a fine Perpendicular font, with canopy, the latter bearing several inscriptions. It is believed that this church was built by Edward Gonville, the founder of Gonville and Caius College, Cambridge.

A move was then made towards *Tilney All Saints*. The church, originally Norman, has been altered from time to time till it possesses traces of almost every style of architecture.

The church of *Terrington St. John* was to have been visited, but time did not permit this portion of the programme to be carried out, and the party returned from Tilney to Wisbech.

Richmond Free Public Library.—This institution was opened on Saturday last by the Countess Russell. The building has been erected under the Free Libraries Act by vote of the inhabitants, Mr. F. S. Brunton being the architect. We have already given some particulars of the building, together with a view and ground-plan. (See pp. 370, 377, *ante*.)

ARCHÆOLOGICAL SOCIETIES.

Yorkshire Architectural and Archæological Society.—On the 14th inst., the members of this society had their summer excursion to Pickering and district. At Low Hall, which was first visited, Mr. T. M. Kendall showed his collection of antiquities, and the party afterwards proceeded to the ancient church of St. Peter, where they were received by the Rev. G. H. Lightfoot, the curate-in-charge. The Rev. G. Rowe, hon. secretary of the society, read a paper on the history and architecture of the edifice. The history of this interesting building, he said, might be summed up in a few words. Originally a Saxon church, as evidenced by the font, there must have been a large building in Norman times, of which all that now remained were the basement story of the tower and the north arcade of the nave. In the early part of the thirteenth century the southern arcade was built, the transepts, chancel, and aisles also, and the tower raised one stage higher. The nave and aisles were probably under one roof. The easternmost window in the south aisle is original, but the Early English work of the chancel and south transept is new. During the prevalence of the Decorated style, fully formed in the fourteenth century, the east window of the chancel was inserted, the sedilia and piscina were put into the chancel, the north transept was rebuilt, the reticulated windows and door were inserted in the aisles, and the upper stage of the tower with the spire were added. The beautifier of the edifice at this time may have been Sir William Bruce, who is supposed to be commemorated by the cross-legged effigy now in the south chancel. Having visited Pickering Castle, the excursionists drove on to Newton, to the site of the ancient Roman camp at Cawthorne, passing which, shortly afterwards Cropton Church and the famous Hall Garth Hill were reached. Middleton Church was next visited. Here the Rev. G. Rowe read a paper, in which he pointed out the Saxon features of the edifice.

Dorset Antiquarian Society.—At the first meeting of the Dorset Antiquarian and Natural History Society for the present session, held at Dorchester the other day, the hon. sec. (Prof. Buckman) reviewed the Society's work for the past year,—the meetings at Sherborne, Wimborne and Cawford Manor, Swanage, and Weymouth. The members afterwards visited Wolfeton House, where Mr. Banks, the owner, read a paper descriptive of the history and present condition of the building. The visitors next proceeded to Poundbury, where Mr. Cunnington, who has been engaged in excavations with a view to ascertaining the period in which the earthworks there were formed, stated his opinion the place was an old British camp, and said his investigations had led to the establishing of this fact beyond the shadow of a doubt. Mr. A. Pope said one writer had stated the camp was Danish; he should like to know if there was any ground for this suggestion? Mr. Cunnington replied there was not the slightest reason for such a theory; he also observed the camp had been claimed as belonging to four different periods, but he was satisfied it was old British. He further stated his belief the old Duniam mentioned by Ptolemy was connected with Poundbury and Dorchester.

Somerset Archæological Society.—The annual meeting of the Somersetshire Archæological Society will be held at Clevedon this year, beginning on August 23rd and ending on August 26th. Mr. G. H. Elton is the president for the year, and Mr. T. Dickinson the local hon. secretary. There will be excursions to Tickenham, Wraxall, Long Ashton, Flax Bourton, Backwell, Chelvey, Nailsea, Cadbury Camp, Clapton, Portbury, Portishead, and Weston-in-Gordano. A local museum will for the week be established in Clevedon, under the direction of Mr. Bidgood, the curator of the Society.

Distraint upon a Town-hall.—Whilst the Lichfield Town Council was sitting on the 16th inst., the sheriff's officer took possession of the Guildhall in which the meeting was being held. Bailiffs were also placed in the police office and at the Corporation stables. The claim was by Messrs. Paterson, sewerage contractors, for 3,500*l.*, which sum had been awarded to them, after much litigation and appeal. A stormy meeting of the Council was at once held, at which the money was ordered to be paid, and the officers were thereupon withdrawn.

THE THEATRE AT ONE'S OWN HOUSE.

IF what we hear be correct, the two Telephonic Halls which are to form part of the International Exposition of Electricity, in the Palais de l'Industrie, Paris, will be great points of attraction. According to *La Semaine des Constructeurs*, the telephonic arrangements in these apartments will enable visitors to hear the performances at the Comédie Française and at the Opera House. Not only will they hear the voices of the singers and actors, and the music of the orchestra, but the minutest details will be audible, even to the footsteps of the dancers. Ten visitors are to be admitted at a time, and while they are listening for, say a quarter of an hour, ten others will take their places in the neighbouring chamber, to whom the current of sound will be turned on at the expiration of the stipulated time, and this is to go on all the evening.

DOMESTIC ECONOMY CONGRESS.

THE third annual Domestic Economy Congress was inaugurated by a *conversazione* in the Royal Albert Hall on Monday evening. The conservatory of the Horticultural Society was thrown open and illuminated with the various systems of electric lighting now in competition before the public. The attendance was large and brilliant; the evening entirely successful.

The Congress opened for practical work on Tuesday morning, in the hall of the Society of Arts, John-street, Adelphi. The Countess of Airlie presided, and Sir Henry Cole acted as assessor. The first business was in Section A, which related to methods of teaching and examining domestic economy, with special reference to the definition of the same in the Educational Code. The author of the first paper was Lady Stuart Hogg, and in her absence it was read by the Rev. Newton Price, as well as he could decipher the MS., a difficulty which during the day prompted the assessor to read Lord Palmerston's ideas on plain handwriting. The paper described in dark colours the ignorance of our working classes in matters of domestic economy, as compared with people of the same class in Germany and France, and advocated making compulsory the teaching in State schools of all subjects of practical utility. Something at least should be attempted to encourage simplicity in dress, and to hold out inducements for thrift and industry. Another paper was read, being "Suggested outlines of a plan for establishing women's inspection of the teaching of domestic economy by counties proposed by some members of the executive committee of the Congress." This paper was the joint production of Sir Henry Cole, the Rev. Newton Price, and the reader (the Rev. J. F. Faunthorpe). It proposed that all public elementary girls' schools or departments, as respects the teaching of domestic economy, be under the sole inspection of women; that in mixed schools the examination and inspection of all works below Standard III. be assigned to women; that there should be a central office for examination and inspection in every county and large town; that any new system should be organised at practical South Kensington, and not at Whitehall, where domestic economy was better understood and encouraged forty years ago than it is now; and that there should be a local anniversary exhibition, with prize and certificate scheme. After a description by Mr. Price, school inspector, of the necessity in the mining districts of Monmouthshire of teaching in the subjects under discussion, another paper was read by the Rev. Newton Price upon county organisations for teaching domestic economy, urging that the subjects of health, needlework, and cookery should be taught by illustrated lectures; that all experiments should be inexpensive; and that teachers in cookery should be qualified by apprenticeship. A somewhat discursive discussion followed. Mrs. Cooper pointed out that hundreds of working-class girls are eager to learn domestic economy, but can find no one to teach them. Miss Kenrick thought that the present system of inspection would be better than the divided authority proposed in the outlines. Miss Wright was of opinion that domestic economy might well take the place of some so-called accomplishments in private ladies' schools. In a paper entitled "The Need of Domestic Economy in bringing up Pauper Children," Miss Andrews

(Guardian of St. Pancras) asserted that pauper children are indoctrinated into habits of waste in the workhouses. The next paper, read by Miss Barnett, was contributed by Mrs. Greenup, who proposed that the National School for Cookery should be transformed into a National Training College for Teachers of Domestic Economy. Sir Henry Cole appealed to all interested in the question not to allow a movement which owed its origin to Sir J. Kay Shuttleworth, but over which a blight came, to languish and die. Mr. W. J. Harrison read his prize paper, "On the Itinerant Method of Teaching Domestic Economy in Public Elementary Schools." A prize paper "On the Teaching of Domestic Economy," by Miss E. M. Brant, Board School, Great Berkhampstead, Herts, was well received. An historical paper as to what has been officially done with respect to domestic economy was read by Sir Henry Cole.

We may have something more to say next week about the proceedings of the Congress, which will be brought to a conclusion this Saturday, the 25th.

THE REBUILDING OF LEADENHALL MARKET, AND STREET IMPROVEMENTS ADJACENT.

LEADENHALL-STREET and Gracechurch-street are about to undergo an extensive improvement as regards new buildings in the immediate locality of the Market, now undergoing reconstruction. A large block of shop and other property, extending in Leadenhall-street from the corner of Gracechurch-street to a distance of about 100 ft. eastward, and the same length southward along Gracechurch-street to the boundary of the approach to the Market in that thoroughfare, is at present in course of demolition, preparatory to the erection of a large block of new property on the site, which covers an area of 17,000 superficial feet, and which includes the site, adjoining the market, on which the Leather Market formerly stood. The new premises will have handsome frontages to Leadenhall-street and Gracechurch-street, and a frontage of 113 ft. to the new street leading out of Leadenhall-street to the market, which is to be formed as a part of the new scheme.

The ceremony of laying the foundation stone of the market will take place on Tuesday next. The stone will be laid by Mr. Henry A. Isaacs, Chairman of the Markets Committee.

CHURCH OF ST. PAUL, FOREST-HILL.

SOME months ago six architects were invited to send in designs for the above proposed new church. Five sets of drawings were received, and the committee decided to refer them to Messrs. J. Lee & Sons, of Craven-street, Strand, who drew up a report on the merits of each design; after consideration, and numerous meetings, the committee eventually resolved that Mr. E. W. Mountford, of 22, Buckingham-street, Strand, and Mr. H. J. Appleton, of the Wool Exchange, Coleman-street, should be appointed joint architects, and these gentlemen have been instructed to prepare the working drawings.

The church is to contain accommodation for 900 people, and the cost will be about 6,500*l*.

PREVENTION OF SMOKE.

SOCIETY OF ENGINEERS.

AT a meeting of the Society of Engineers, held June 13th, in the Society's Hall, Mr. Charles Horsley, president, in the chair, a paper was read by Mr. A. C. Engert, on the "Prevention of Smoke."

The author, in choosing the title of the "Prevention of Smoke," instead of the "Consumption of Smoke," gives it as his opinion that smoke, once produced by the atmosphere and while being carried by the air, cannot be consumed, as every particle is surrounded by a thin film of carbonic acid. When, however, smoke is condensed as soot, heat will liberate the carbon from the acid, and then the former will burn rapidly. If this theory is found to be correct, carbon cannot destroy the germs of disease floating in the air.

For the consumption of smoke, many ingenious and elaborate inventions are on record, but not yet adopted, on account of expense and complexity of mechanisms. A simpler apparatus is, therefore, required.

To prevent smoke, the cold air must not be allowed to come in contact with the gases arising from green coals, and, for this purpose, the furnace is, so to speak, divided into two parts. The fire-door is removed from the boiler, and a box fixed on in front. On each side of this box rails are placed inside, on which a plate or shutter may rest, which can be pushed forward or backward as required. When pushed forward it passes within the boiler and drops over the fire-bars some 18 in., thereby cutting off the draught, and preventing the condensation of the gases arising when fresh coals are put on, thus preventing smoke and the cooling of the boiler. A still more simple apparatus can be made with the same results, if the opening or flue will admit a higher box. The shutters can be cast together in one piece at an angle of about 130 degrees, to hang within the box on two pins or bolts, thus forming a swinging shutter. A rack is attached to the front of the shutter, to regulate the movement. The advantages of this apparatus are,—the cooling of the boiler is entirely avoided, the gases are consumed so that smoke is prevented, and there is a saving of from 15 to 20 per cent. of heat and coal.

In ordinary open firegrates the same object is attained,—viz., the prevention of the cold air coming into contact with the green coal,—by removing the fire-lump, and substituting for it a cast-iron box, which stands out at the back, and is open in front only, and which is to be filled with coal. Within this box is a movable iron plate, which can be forced forward, carrying with it the coals from which the gases have been extracted and consumed by the heat in front, or moved backwards when the box wants refilling. To regulate the draught so that the fire burns brightly in front, a plate is fixed under the grate coming forward at the bottom. Another plate resting on pins is placed on top of the box, to prevent the flame entering the register. By this simple apparatus a bright fire is maintained in front of the grate, half of the heat usually escaping into the chimney is saved, there is little or no smoke, and the smallest coal can be used, and is, indeed, preferable.

FOREIGN SERIALS.

THE *Revue Industrielle* (Paris, June 15), publishes the regulations issued by the Préfet of Police for the prevention of fire in theatres. The building, where possible, must be separated from all other buildings by a passage 10 ft. wide. Where this is not possible, an additional 10-in. brick wall is to be erected. An iron curtain is to be used, in order to avoid danger to the audience from falling pieces of woodwork, &c. Precautions are taken to avoid a draught being caused by the (gas) sunlight. Very strict regulations have been made with regard to the lighting. All the gas-pipes are required to be of iron. The auditorium, stage, and offices are to be lighted from three different meters, so as to avoid the possibility of a total extinction of light. In all the public parts of the house oil-lamps are to be kept burning during the performances, so that there may be sufficient light, independently of the gas, to enable the audience to find its way out. All lights are to be protected with a wire cover. All electric wires are to be insulated with some incombustible material. No steam-engine can be employed without special authorisation. All the decorations are to be inspected every six months, and to receive a coating of some fireproofing liquid. Iron stairs are to be fixed inside and outside the building. A complete water-service, with hydrants, on all the floors, is compulsory, whilst the theatre must have telegraphic communication with the nearest fire-engine station. The width of all passages is fixed, with a view to providing easy exit, for which purpose all the doors are to open outwards. These regulations are to be enforced as quickly as possible.

British Blast Furnaces.—From an official return, it appears that there are now 556 blast-furnaces at work in Great Britain out of 967 erected, the number in operation being 27 fewer than at the end of March. Scotland has the largest number at work in proportion to its total of any district, 120 being in blast; and South Staffordshire the fewest, 42 being in operation out of 144. Cleveland and Durham district has 119 in operation; Cumberland and Furness, 54; and South Wales, 65. Preparations are being made for reducing the production of the Cleveland and Durham district to the extent of close upon 1,000 tons per week.

PATENT RECORD.*

2,442. J. L. Corbett & W. Lochhead, Glasgow. Apparatus for regulating the supply of water, &c. June 3, 1881.

2,443. C. H. von Ullner, Euston-road. Apparatus for regulating the flow of water, &c. June 3, 1881.

2,453. J. Herd, Birmingham. Roadways, pavements, &c. June 3, 1881.

2,464. J. Taylor, Clapham. Tiles and their attachments. June 4, 1881.

NOTICES TO PROCEED

have been given by the following applicants, on the dates named.

June 7, 1881.

505. T. Rowan, Ryde. Chimneys or flues. Feb. 5, 1881.

673. J. D. Adams, Marshall-street. Safety-valves for the boilers of kitchen ranges, &c. Feb. 16, 1881.

744. H. Skerrett, Birmingham. Door-chains, &c. Feb. 21, 1881.

June 10, 1881.

527. A. Clark, New-cross. Water-closets. Feb. 7, 1881.

528. J. C. Vanlohe, Providence, U.S.A. Apparatus for cutting or sawing stone, &c. (Com. by P. Gay, Paris.) Feb. 7, 1881.

ABRIDGMENTS OF SPECIFICATIONS

Published during the Week ending June 11, 1881.

4,178. F. Parker, Cambridge. Manufacture of cement and bricks.

This invention utilises calcareous marl, containing a large proportion of carbonate of lime. The marl is dried and then ground to powder, when it is made into bricks, and burnt in a cement-kiln, being afterwards again ground into cement. The bricks are made in the same way. (Protection not allowed.) Oct. 14, 1880. Price 2d.

4,208. H. Phillips, Heavitree. Urinals, &c.

The discharge-pipe is led down to a receptacle containing dry earth, &c., and the fluid is discharged below the level of this earth. The earth, when saturated, may be removed and dried. Oct. 15, 1880. Price 2d.

4,272. J. Martin & W. A. Ward, Hyde. Ventilators.

A tube, open at both ends, has a cap fitted on the top. The lower end has a perforated rosette on it, which is let into the ceiling, and allows the vitiated air to escape. (*Pro. Pro.*) Oct. 20, 1880. Price 2d.

4,295. P. Langridge, Eastbourne. Apparatus for raising window-sashes.

This is effected by a coiled spring inclosed in a case, which has a groove formed outside, round which a cord or metal tape is wound, the other end of which is attached to the sash. There is a ring of ratchet-teeth on the spring-case, and a pawl which is made to engage by a weighted lever or a spring, and is actuated by a cord. Oct. 21, 1880. Price 6d.

4,365. W. T. Sugg, Westminster. Baths.

This relates to that class of bath in which the water is heated by gas while in the bath. A number of tubes are inserted in the head of the bath, and led along under the same to the foot thereof. The gas-burner is placed under these tubes, whereby a great heating-surface is obtained. The products of combustion are conducted by a flue to an opening in the side of the bath above the water-level, and a conductor leads the vapours to the water, where they are absorbed. Oct. 26, 1880. Price 6d.

4,370. J. W. Holland, Liverpool-road. Water-closets, &c.

A closed chamber communicates with the closet-basin, from which a ventilating-pipe is led to the open air. The trap of the closet discharges into the chamber, from the bottom of which the soil-pipe is led. The overflow-pipe from the closet-basin discharges into the upper part of the chamber, over whose orifice is an indiarubber valve. An indiarubber ring is used to keep the joints of the pipes tight. Oct. 26, 1880. Price 6d.

4,386. J. R. Dry, East India-road. Cowl.

The bell-mouth of the cowl has a cone inserted in the centre, which has a narrow aperture round the base, and is made to face the wind by a vane; the air therefore escapes with great force through this annular space, and effectually drives away the smoke. Oct. 27, 1880. Price 6d.

4,411. U. Bromley, G. Crowe, and W. James, Chester. Cisterns for flushing apparatus for water-closets, &c.

A syphon is fixed in the cistern, so that when this syphon is filled the entire contents of the cistern will rush through the syphon and flush the closet. The filling of the syphon may be performed by a cock which is adjusted so as to fill it in a certain space of time, or by a handle to open the cock when required, or by a small pipe led from the cistern into the discharge-pipe, fitted with a cock, on opening which the rush of water causes a vacuum in the pipe, and immediately fills the syphon. Oct. 28, 1880. Price 6d.

4,435. C. M. Westmacott, Westminster. Stoves.

A hollow chamber is placed in the recess, of such a form as to extend to a certain height along the back and sides thereof, and to leave a space open in front, in which is

* Compiled by Hart & Co., patent agents, 28, New Bridge-street, E.C.

placed the grate, which has bars all round it. A set of moveable bars is placed beneath the bottom bars so as to regulate the rate of combustion. Upon the hollow chamber is a plate covering the space above the grate, which has openings at each end to allow the escape of smoke. This plate is used as the hot plate. Two curved flues are formed, one from each end of the plate, and a damper is fitted at their junction. The circular space between them is fitted with a door and used as an oven. Oct. 30, 1880. Price 8d.

4,500. R. H. Bishop & A. S. Bishop, Islington. Sash-fasteners.

A pair of lugs are fixed in a plate to the bottom rail o the upper sash, to which is pivoted a slotted lever, which is kept vertical by a spring coiled round the pivot. Upon the top rail of the lower sash is fixed a small box to receive the spring bolt, to the inner end of which is secured a segment piece with catches which project upwards through the top of the box, and will enter the slot in the lever when this is drawn down towards a horizontal position. (*Pro. Pro.*) Nov. 3, 1880. Price 2d.

4,501. J. H. Bourlay, Frankley. Smoke-consuming stoves, grates, &c.

The bottom of the grate is solid, except a small space in the centre, where bars are used. Beneath these is a box, open to the bars, but closed below. The box is divided into two portions, one of which is supplied with air by a a flue rising on the side of a "register" door communicating with the chimney. When the door is closed, the smoke ascends the flue, and is led down behind the back of the fireplace, and enters one portion of the box under the grate, whence it passes again to the fire and is consumed. (*Pro. Pro.*) Nov. 3, 1880. Price 2d.

4,505. A. Thomson & R. Anderson, Glasgow. Chimney-cowl.

This is made in two parts. One is cylindrical or slightly conical, and resembles an ordinary plain chimney-can, and the upper part is fitted with a hood, made of a conoidal shape, and attached to the can by a sliding ring. It is larger than the can at the bottom, so as to leave an annular passage all round. In the hood is a conical deflector to prevent the wind blowing down the same. (*Pro. Pro.*) Nov. 4, 188). Price 2d.

4,509. E. Warner, Stowmarket. Apparatus for supplying disinfectants to water-closets, &c.

A reservoir is provided, the filling opening of which can be closed air-tight, which communicates by tubes with a lower cistern. In this a syphon is fitted, one end being in the lower cistern and the other end in the supply-pipe of the closet. The upper cistern being supplied with the disinfectant, and closed, a certain quantity will pass into the lower reservoir. When water flushes the basin out a certain quantity will pass into the lower reservoir and dilute the disinfectant. On the flow of water ceasing, and as the water falls in the supply-pipe below the connexion of the syphon, the diluted disinfectant will pass through the syphon into the pan. Nov. 4, 1880. Price 6d.

4,518. H. Seward, Queen Victoria-street. Disinfecting closet-pans, &c.

A chamber is formed below the pan, communicating with the soil-pipe, which is protected by an overhanging cover, so that no water can enter. This chamber is supplied with carbolic acid. Nov. 4, 1880. Price 6d.

4,532. G. K. Hannay, Haverthwaite. Fire-grates.

The basket part of the grate is formed of bars, and mounted by pivots upon bearings in a framing, so that the basket can be turned in a vertical plane upon these pivots. The sides of the basket are fitted with plates or covers, which may be used when required. When fresh fuel is added to the fire, it is placed in the upper part, and the cover being placed on that side, the basket is turned round so that the upper part becomes the lower part, and the smoke is thereby consumed. (*Pro. Pro.*) Nov. 5, 1880. Price 2d.

4,577. H. Faija, Westminster. Manufacture of blocks of concrete and cement for building, &c.

The concrete or cement is mixed or gauged in the required form, and then subjected to moist heat by being placed in a chamber into which steam is admitted, so as to act directly on the material. An alkaline solution may be mixed with the cement, so that it may be speedily hardened. (*Pro. Pro.*) Nov. 8, 1880. Price 2d.

136. W. Page, Lambeth. Slabs for paving street corners.

The claim here is for the shape in which the slabs and the moulds thereof are made. They are so shaped that, when in proper combination, the slabs may form a quadrant, sector, segment, or any other figure that may be required. Jan. 12, 1881. Price 6d.

Tendering at Croydon.—Complaints are made in the *Croydon Advertiser* of the manner in which the local School Board obtain tenders for works. In one case it is alleged that the mistake was made of first inviting a builder to tender, and then, when he was found to have sent in the lowest price, to reject his tender, not on the ground that the work could not be done for the sum estimated, but that he was not a man big enough for the job. In the competition for other works, only three tenders were sent in, and one builder says that the bill of particulars, the specification, the schedule of quantities, and so forth, were only delivered to him on the Saturday before the last Bank Holiday, and tenders were to be sent in on the day after the Bank Holiday. Mr. Henman, the architect, explains that in this case at the last moment a builder declined to compete, and that the one who was invited to compete instead necessarily received his quantities late.

COMPETITIONS.

Guthrie Memorial Church, Edinburgh.—The Free Presbytery of Edinburgh on the 16th inst. approved of plans for the erection of a new church in Easter-road, to be named after the late Dr. Guthrie. The committee entrusted with the duty of procuring designs for the edifice invited plans from four architects by private competition, with the result that they selected those of Mr. Charles S. S. Johnston, Pitt-street. The site of the building is on the east side of Easter-road, adjoining the new Episcopal Mission Chapel, and has a frontage of 70 ft. by 115 ft. of average depth, consisting of a nave and side aisles. The church measures 73 ft. by 47 ft. internally, and is seated for 562 persons, with an end gallery stretching across the western portion of the nave and aisles, seated for 190 persons, giving a total of 752 sittings. A hall, 36 ft. by 24 ft.; session-house, 19 ft. by 15 ft.; vestry, 12 ft. by 10 ft.; and lavatory, are situated in rear of the church. The nave of the church is separated from the aisles by arcades formed of cast-iron columns, supporting timber arches, whose spandrels are pierced with cinquefoils and circles; directly over these arcades are two rows of timber dormers or clearstory lights, having three cusp-headed openings each. The style adopted throughout is Early English Gothic of a very plain type, and the estimated cost of the church is 3,500*l.*

Bloxwich Board Schools.—On the 14th inst., a special meeting of the Walsall School Board was held for the purpose of selecting plans and designs for the intended new Board Schools at Elmore Green, Bloxwich. The choice ultimately lay between Mr. S. Loxton, Walsall, and Mr. Fleeming, Wolverhampton, and the plans prepared by the former were in the end chosen, subject to certain modifications in matters of detail which the Building Committee were authorised to arrange with Mr. Loxton.

BRICK-MAKING AT BRIXTON.

AT a meeting of the Lambeth Vestry, on the 16th inst., the Sanitary Committee reported that Dr. Soper, assistant medical officer, had visited the brick-yards of Messrs. Harris & Loat, Acre-lane, Brixton, on two occasions. In Mr. Loat's yard he found a stack burning and pouring out most offensive fumes, and, in his opinion, highly prejudicial to the neighbourhood. He watched very carefully the process of manufacture, and brought away two bags, filled for him by the foreman, containing sifted ashes (fine) and the coarser material that was used for burning the bricks. The bag of fine ashes was offensive to the smell in its moist condition, and in his opinion consisted largely of organic material, vegetable and animal, and this was used in mixing with the earth to make the bricks, the coarser material to the naked eye consisting of rags, hair, corks, coke, bone, oyster-shells, &c., and was in burning certain to produce a very offensive and deleterious odour. He obtained also from each yard an unburnt brick, and from inspection he had little hesitation in saying that very little clay proper entered into its composition. It contained evidently animal and vegetable *detritus*, and in his opinion was a source of bad odour when burnt apart from any material that might be employed in the process of burning the bricks. So strongly did he entertain this opinion, that he asked the committee to allow a quantitative and qualitative analysis to be made of the bricks, as also of the two specimens of material he had submitted to their notice. He did not believe that clay proper entered into the composition of these bricks, but only as an accidental element, and that the brickfield was simply a thing of the past, and was now a manufactory of bricks wholly and solely of material brought from the outside in the shape of dust rubbish and road-sweepings.

Mr. Fowler said proceedings had already been taken in this case, and the magistrate had awarded a penalty; but the penalty was a very nominal one. Notwithstanding the magistrate's order that Mr. Loat should discontinue burning bricks of this unwholesome material, he appeared to have taken little notice of that order. It was quite time, therefore, that the vestry should take steps on behalf of the inhabitant ratepayers of the parish, and also to expose the manufacture. He moved that Dr. Muter be directed to make an analysis of the bricks, and that should the result of the analysis confirm the opinion of Dr. Soper, the officers of the Vestry be directed to take proceedings.

Dr. Gillard seconded the motion.

Mr. J. Smith said he had had submitted to him last week certain samples of what were termed bricks. After some thirty years' connexion with scientific chemistry, he could assure the vestry that he had never seen anything at all equal to these. In the burning of these bricks the carbonaceous matter was burnt. The organic matter was thus got rid of, but still they were not bricks. The material was simply held together, with no cohesive force whatever.

Mr. J. Hoskins thought that if the district surveyors could be brought to account, it would be better for the health of the parish.

The resolution was agreed to.

We quote the foregoing report from the *South London Press*. Mr. Hoskins, unless he has been misrepresented by the reporter, seems to have peculiar notions of the duties of district surveyors.

CASES UNDER BUILDING ACT.

AT Highgate, Mr. William J. Wooder, licensed victualler, and landlord of the Flask Inn, Southgrove, Highgate, appeared before Messrs. Bodkin, Lermitte, Brooke, Bayley, and Colonel Stedall, to answer a summons taken out by Mr. Alfred Bovill, district surveyor for North St. Pancras, charging him with contravening the Metropolitan Building Act, 1855, by the erection at the back of the Flask Inn of a building enclosed on two sides with timber, and with a roof of timber and canvas.

Mr. Bovill said that his attention having been called to this building, he gave the defendant notice in December last to remove it, but he had not done so.

Mr. Ricketts contended that the place was not a "building" within the meaning of the Act. The posts did not go into the ground. It was a tent erected for the purpose of giving lavatory accommodation to the members of a club called the Isledon Harriers.

Mr. Bodkin, who had seen the place, was of opinion that it did come within the meaning of the Act, and furthermore that it was a dangerous structure, which ought to be immediately pulled down.

Mr. Brooke (president of the club named), Colonel Stedall, and Mr. Bayley, three of the magistrates, proceeded to view the place, and on their return,

Mr. Brooke said they had come to the conclusion that the erection, which was in direct communication with the inn, was a building within the meaning of the Act.

The Bench accordingly made an order for the building to be pulled down.

COMPENSATION CASES.

The Earl of Derby v. *The Corporation of Preston.*—On the 16th and 17th inst. a Sheriffs' Court was held at the Preston Town-hall (before Mr. J. K. Aston, assessor, and a special jury summoned from various parts of the county) to assess the amount to be paid to Lord Derby for part of the site of the proposed free library and museum for that town, and the property now standing thereon.

In opening the case, Mr. Gully, Q.C., said the land in question, as the jury would have seen, was encumbered by buildings which were in about as bad a state as they possibly could be; but the question for the jury was the value of the land, taking the buildings as only old materials. These buildings fronted Lancaster-road, and would be a capital site for shops. Some of the land was let at an annual rental of 14*s.* per square yard, and the remainder at 8*s.* per yard.—Mr. George Hall, principal agent for Lord Derby, having given evidence to the effect of this statement, Mr. R. Gardner, architect and surveyor, said he had valued the land in question, of which 143 yards were worth 12*l.* a yard, or 1,716*l.*; 574 yards were worth 10*l.* a yard, or 5,740*l.*; and 48 yards he valued at 3*l.* 6*s.* 8*d.* per yard, or 160*l.*; and for old material he set down 50*l.*—making 7,666*l.*, which, with 10 per cent. added for compulsory sale, would make 8,433*l.* 12*s.* If the land were built upon he estimated that it would be worth 8,514*l.*—Mr. Harding, architect and surveyor, said he valued the land at 6,184*l.* 10*s.*, with 10 per cent. added for compulsory sale (618*l.* 9*s.*), making a total of 6,802*l.* 19*s.*—Mr. J. Brierley, C.E., Blackburn, valued the property at 6,773*l.* 4*s.*, including 10 per cent. for compulsory sale.—Mr. Thomas Howard, agent for General Fielden, Witton Park, Blackburn, estimated it at 6,735*l.*, including the 10 per cent., and Mr. Dorning, civil engineer and surveyor, of Manchester, at 6,490*l.*, with the 10 per cent. added, making 7,139*l.* Mr. Higgin, Q.C., on behalf of the Corporation, said the counsel and witnesses for the claimant had put too high a valuation on the property. He called Mr. Garlick, borough steward and treasurer, and civil engineer, who said he had known the property for the last forty years. If it were not pulled down it would very soon fall down. If buildings were erected suitable for the site, there would be 226,757 cubic feet of building, at 6*d.* per cubic foot, making a total cost of 5,678*l.*, which at 6 per cent. would realise 375*l.* gross rental per year, and this at twenty years' purchase would give 7,500*l.* Deducting the cost of the buildings that would leave 1,832*l.* net rental capitalised, which, with 10 per cent. added for compulsory sale, would make 2,015*l.* As bare land he valued it at 2,005*l.* Mr. Garlick, in cross-examination by Mr. Gully, said he was of opinion that if a prudent owner were to spend 5,000*l.* in building lock-up shops on the land in question he would only improve its value to the extent of about 100*l.* The land at present was worth about 1,724*l.*, and it would then be worth about 1,832*l.* Mr. John Cross, of the firm of Cross & Eagle, surveyors and valuers, of Manchester, said he thought the

land and property, as they at present stood, were worth about 1,872*l.*, which, with the 10 per cent. added for compulsory sale, would make 2,060*l.* Considering that Lord Derby had had powers from the Corporation to make vaults or cellaring for some feet under the roadway, he should increase that amount to 2,357*l.*, which was as much as anybody would give for the property, and was its full value. Mr. J. Hibbert, architect (the mayor), valued the property at 1,686*l.* 12s. 7d.; Mr. R. Veevers, of Messrs. Myres, Veevers, & Myres, architects and surveyors, of Preston, estimated it at 2,318*l.*; and Mr. Newton, of Salford (formerly borough surveyor of Preston), at 2,240*l.*

The jury gave a verdict for 4,387*l.*

Swan v. *Great Northern and Great Eastern Railway Companies.*—Sir Henry Arthur Hunt, the arbitrator who sat at Lincoln on the 8th and 9th inst. to investigate the claims to compensation made by the Rev. C. T. Swan, in respect of land at Lincoln taken by the above railway companies for the new line from Lincoln to Spalding, has made his award. The witnesses for Mr. Swan valued the land at prices ranging from 16,054*l.* to 16,720*l.*, whilst none of those called for the railway companies admitted that he was entitled to more than 4,434*l.* Sir Henry Hunt has awarded 5,323*l.*

COMMISSION ON SALES.

SMITH *v.* DUKE.

THIS was an action (tried in the Queen's Bench Division of the High Court of Justice last week, before Mr. Justice Field and a special jury) brought by a firm of house-agents in Regent-street against General Duke to recover commission of 2½ per cent. on the sale of the house No. 32, Devonshire-place, belonging to the defendant. The defendant paid 20*l.* into Court to meet any claim for work done.

The house was sold in January, 1881, to Capt. Steward for 3,250*l.*; but in the August preceding the General had placed the house on Messrs. Smith's list. The plaintiffs had subsequently introduced Capt. Claremont to the defendant as an intending purchaser; the negotiations with him, however, fell through. In October, Messrs. Walton & Lee, another firm of house-agents, sent a clerk to the defendant asking to be allowed to sell, to which the defendant consented; and, ultimately, the sale to Capt. Steward took place through them. The defendant has paid Messrs. Walton & Lee their commission and received an indemnity from them, being in this action only the nominal defendant. After the sale, according to the plaintiffs' evidence, Capt. Claremont entered into possession, and still remains in occupation of the house. The General, in his evidence, said he did not know when Capt. Steward purchased that he was buying on behalf of Capt. Claremont. According to the plaintiffs' witness, the former, when asked if Capt. Claremont was mixed up in it, replied that he declined to answer, thinking it a very impertinent question. The General was the only witness called for the defence, and

Mr. Clarke asked the jury to say that the plaintiffs had not made out their claim to commission, and that the 20*l.* paid into court was amply sufficient to meet any claim for work and labour done in writing letters, sending cards, advertising, &c.

Mr. Day, in his reply, stigmatised the action of the real defendants, expressly excluding the General, as a juggle to defeat the plaintiffs' just and lawful claim for commission on this transaction. None of the parties to the real sale had been called before the jury, except the General, who knew little or nothing about it.

Mr. Justice Field said the question for the jury would be whether the relation of buyer and seller had been brought about by the means of the plaintiffs. He thought it a transparent case.

On the jury apparently assenting to this, his Lordship was just going to enter a verdict for the plaintiffs, when one of the jurors said he did not agree in that verdict, and the learned Judge then proceeded to sum up, reading from the judgment of the late Chief Justice Erle in Green *v.* Bartlett (14 C. B., N. S., 686). His Lordship there says:—"The question whether or not an agent is entitled to commission on a sale of property has repeatedly been litigated; and it has usually been decided that, if the relation of buyer and seller is really brought about by the act of the agent, he is entitled to commission, although the actual sale had not been effected by him." He did not know if that decision removed the doubt from the mind of the gentleman who objected?

That gentleman then assented, and the jury returned a verdict for the plaintiffs for the commission claimed,—*i.e.*, 55*l.* beyond the 20*l.* paid into Court.

The learned Judge then gave judgment for the plaintiffs for 75*l.* with costs, and granted a certificate for a special jury.

Oxford Architectural Society.—On Saturday week the members of the Oxford Architectural Society, to the number of about eighty, paid a visit to Windsor Castle and Eton College. Arrangements had been made for conducting them over the Castle, St. George's Chapel, and other places of interest, by the Rev. Canon Pearson and Mr. J. H. Parker, C.B. Mr. James Parker read extracts from a paper which he had prepared on the foundation and early history of the Castle. The party afterwards inspected the Albert Memorial Chapel and St. George's Chapel. At Eton College the quadrangle, cloisters, and other parts were duly inspected, but the chief interest was centred in the chapel and cloisters.

APPEAL AGAINST AWARD.

CRIPPS *v.* HOAR.

THIS was an appeal before Mr. Justice Fry (Mr. Pearson, Q.C., and Mr. Beaumont, for the plaintiff; Mr. Glasse, Q.C., and Mr. Cunningham for the defendant) against the decision of the arbitrator in the above case,—a timber-trade dispute,—between the above-named persons. The claim was for one half-share of 2,214*l.* 16s. 2d., being the award of net profits of business for about twelve months. An order was made for Mr. Hoar to pay within ten days, and costs of appeal.

THEATRES.

Belfast.—The Theatre Royal, which was totally destroyed by fire on the 8th inst., is to be rebuilt at once. Mr. C. J. Phipps, F.S.A., is engaged to prepare plans for the new building.

Kidderminster.—The foundations for a new theatre for Kidderminster have been commenced. The new building will be situated in the New-road, on the banks of the River Stour.

London.—It is proposed to build a new theatre on the north side of Great Queen-street, Lincoln's Inn Fields, on the site of premises formerly occupied by the Boys' Refuge. The site extends back to Parker-street, to which the theatre will have a frontage. The theatre will accommodate about 800 persons. Mr. Thomas Verity is the architect. Great Queen-street was at one time much affected by actors as a place of residence. It is stated that in the house which formerly stood on the site of No. 74, and which now forms part of the site of Messrs. Wyman & Sons' new printing-office, resided Knight, the comedian, father of the late Mr. J. P. Knight, secretary of the Royal Academy.

Inverness.—The excavation of the ground on the site of the new Theatre and Opera-house in Bank-street has been proceeding for some time past, and is now completed. A meeting of the new Theatre Company was held last week, at which it was agreed to order the contractors to proceed with the erection of the building forthwith.

PRACTICAL PLUMBING.

SIR,—Mr. Hellyer, every plumber must admit, has set himself a rather tough job in undertaking to enlighten such highly practical and experienced audiences as have been witnessed at his lectures, and he is entitled to every credit for the efforts which he is making in that direction, although I cannot say that I am quite at one with him in his practice in many important points. We must not expect that an individual lecturer, with what one would call limited experience, should be accepted as an unquestioned authority on all points. For instance, with regard to wiping joints, I must take the liberty of differing from Mr. Hellyer's opinion that a short joint as made by Scotch and American plumbers is not quite as good as and more practical than a long one, as the joint, properly made, is quite as sound, and may be made with ease either upright or underhand, without the use of plumber's irons. This may be new to some plumbers, but the writer will be pleased to demonstrate the fact in a practical manner to any who doubt this or are interested to know. This is the usual practice in America and in many parts of this country. Wiped joints may also be made with the use of the French lamp in the same fashion as the Frenchman builds his overcast joints, which might just as well be wiped. Joints may also be made by the use of an air blow-pipe and gas jet, which is probably the safest way on a building where there is danger from fire. The blow-pipe is similar to that used for homogeneous soldering, better known as lead-burning. Then with regard to lead-bending, the method recommended by the lecturer I may be allowed to say is not one that can be applied in all cases, as the dummy would scarcely make an impression on pipes of heavy substance such as those used on board ship, where the scupper pipes and pump suctions are bent and contorted to all manner of shapes and forms. If I had a plumber that could not make a bend in any ordinary pipe without the use of this tool and at the same time keep the bore at the throat of an equal diameter to the pipe, and that without reducing the thickness at the heel, a "dummy" would be the term that I should be inclined to use in my estimate of his capabilities. I trust, however, that young plumbers will pay earnest attention to the lectures of Mr. Hellyer, while at the same time remembering that there is no finality in the teachings of any one man, and still keeping their minds open and being ever on the alert to catch the teachings of the foremost men amongst them. I should be sorry to think that our "Yankee" cousins should measure the capabilities of us "Britishers" as plumbers by the teachings of any one individual amongst us, as it is rare that men are strong on *all* points. I was pleased to hear the remarks that fell from the worthy chairman, Prof. Corfield, which were both instructive and interesting, but considering that there was apparently a strong desire on the part of several present to ask questions, I am of opinion that a little well-regulated discussion would be greatly advantageous, as it is but seldom that the opportunity occurs of having so many thoroughly good plumbers together, on which point the lecturer must be congratulated on being entirely successful.

JOHN SMEATON.

"PURE AIR AND RADIATING HEAT."

SIR,—In attempting to criticise my letter on the above subject, I notice Mr. Crane says (*Builder*, p. 745) that I "do not believe in radiation." It is very bold of him to make this assertion on my behalf, since, on the contrary, I believe radiation to be the best means of warming the floors, walls, furniture, and all solids in a room. Mr. Crane is evidently one of those possessed with the very delusion that my remarks were intended to dispel; and I must regret that the illustration I used, simple as that gentleman admits it to be, was not understood by him. The cold air he mentions, coming up between the sashes, would not have the effect of preventing the ice thawing, if it were also exposed to strong rays of heat; and, at the time I especially noticed, there was also the outline of the window-fastener, and the back of a chair left in ice on the lower sash.

It cannot be denied that it is a fortunate thing for the inhabitants of this earth that the sun, the purest source of radiant heat, has not been gradually warming the air since creation, but only the solid objects upon which the rays strike after their long journey. Then, of course, these warmed objects, in their turn, warm all air which comes into actual contact with them, causing it to keep flying off in particles in proportion to the heat transmitted to the solids. Hence the cause of the thermometer rising in summer, out of doors, when every object is warmed first by the sun; or, in a room, when the solids warmed by the fire are giving back their heat to the air.

It is constantly being observed also, that the face of a door or wall upon which the sun is shining may be quite warm, say contain 70° of heat, while the air around it may be at zero; if I may be allowed to offer this as a further illustration.

It is for this very quality that I prefer radiation as a means of warming, since it warms the body and all objects it comes in contact with (thus not robbing it of any of its own heat), at the same time leaving the air cool for breathing so long as such air, which has become warmed by the solids, as explained above, is carried off, and fresh cool air brought in at whatever temperature preferred. S. R. EDLINGTON.

THE USE OF COLOURED MARBLES IN ENGLISH ARCHITECTURE.

SIR,—Mr. Jackson's very practical paper has doubtless been read with great pleasure by those who, like myself, think that colour in architecture is even more necessary in the cold gray climate of England than in that of Italy, where a bright warm sun has such a charming effect upon buildings.

As Mr. Jackson, however, after delighting us with splendid visions of architectural polychromy tells us,—apparently with much regret,—that our climate forbids the use of coloured marbles externally, and as this is quite true, I should like, if you will allow me, to say a few words to show that we Englishmen have it in our power to console ourselves to a very large extent for this misfortune.

We have native materials of everlasting durability, even when exposed to the powerful effects of London gases and to our changeful Northern climate, at our very doors, so to speak, and rivalling in colour the marbles referred to by

Mr. Jackson,—colours varying from black and white and various neutrals to the richest positives. I allude to the porphyries and syenites of Leicester and Worcester, the serpentines of Cornwall, the granites of Scotland and Devonshire, the basalts of Shropshire, and to the greenstones and lavas of North Wales. Of course it would be useless to refer to these treasures of the earth if there were no prospect of their being made available at moderate cost; but, as arrangements are in progress for this purpose and are nearly completed, I need not hesitate once more to ask attention to them. Superb would be the result in a building treated internally as recommended by Mr. Jackson, and with its exterior walls faced and decorated with these materials. The principles of design he lays down are applicable to both, though in granite moulded work should, of course, be reduced to a minimum, and the panels filled with flush geometrical designs or mosaics of the richer colours.

It is satisfactory to find Mr. Jackson in full agreement with Mr. Conybeare and the late Messrs. Barry and Burges, in protesting against the present practice of placing two such inharmonious materials in juxtaposition as polished marbles or granites and dull porous stone. This is disagreeable enough when a building is just completed, and the stone is free from soot-absorption, but after a few months the contrast is painful and inartistic in the extreme. The stone has changed from white to black, while the polished granite has suffered no change whatever. Clearly the exterior of buildings in London should be entirely of one material or the other, and when further facilities are offered for using the more durable of the two with economy, it will scarcely be disputed which should be adopted.

HENRY TRAVIS.

THE ENGLISH LAND SYSTEM.

SIR,—That the English land system is at present the cause of the depressed state of agriculture in England I will endeavour to prove, as I explained in my letter of the 7th ult. (p. 588). The agricultural provinces of America are now connected by railways and lines of steamers with England, and owing to competition between rival lines, the tariff is very low. The result is, that the American farmers can successfully compete with English farmers even in country towns. But how is it the Americans cannot successfully compete with the French? Simply because of the system of peasant proprietorship existing in France. In that country there are close on 10,000,000 landowners (or about one-third of the entire population). The result is, that almost every nook and corner of the land is in a high state of cultivation (and this may also be said of other Continental countries with the same system of land tenure). The French farmers own their land: they take a pride in carrying out improvements, are not harassed with a constant fear of increased rents, and can hold their own against the Americans.

To this system of land tenure France owes her present prosperity. How few are the French farmers who emigrate from *la belle France* may be seen by referring to emigration statistics.

Here in England the land system (a relic of the feudal ages), by its *barbaric* laws of entail and primogeniture, has succeeded in what its originators intended it should; that is, in preventing the land from becoming the property of its cultivators; and as in the case of France in the seventeenth century, thousands of acres are reserved for aristocratic sport; and the bulk of the land, not only in England, but in Ireland and Scotland, is owned by a few thousands. How different, this, to the land tenure of France! If the English system of land tenure was formed on the lines of that of the French, your well-meaning correspondent of the 11th inst. (p. 745) would find that the English agriculturist would be able to hold his own against the American, and every nook and corner of dear England would be cultivated by what is the most permanent source of strength to a nation,—a great and thriving population of peasant proprietors.

B. H. THWAITE.

Throwing Road-sweepings into the Thames.—At the Hammersmith Police Court, last week, Mr. Charles Bates, a contractor, of Chelsea, appeared to answer two summonses at the instance of the Thames Board of Conservancy for allowing road-sweepings to be thrown into the river. In the first case the river-keeper saw a barge belonging to the defendant moored off the Fulham banks, near Wandsworth Bridge. It was full of mud, which two men were throwing into the river, instead of wheeling on shore. In the second case, Inspector Long, of the Thames Police, saw another barge belonging to the defendant at the same shoot. Mud was lying on the shore. There were marks of mud having been thrown overboard. Mr. Haynes said the defendant was the contractor for the removal of road-sweepings and refuse from the parish of Chelsea, and employed a man named Rye to empty the barges. He called Richard Rye, a sub-contractor, who said the mud was not thrown into the river with his consent. Mr. Sheil fined the defendant 10*l.* and 2*s.* costs in each case.

PRACTICAL PAPERS.

SIR,—Since reading your proposal to the Institute to contribute something to the more practical side of our profession, and Mr. F. R. Conder's remarks on the new Bursary, I have thought whether it might not be possible to have a series of papers in the *Builder* (illustrated when required) from our architects, dealing exclusively with questions of a practical nature, showing how they individually have treated problems of more or less difficulty occurring in the practice of their profession or detailing any of those small, it may be, but useful expedients, devices, or shall I venture to say "inventions," which they may have worked out and applied in the works they may have been called upon to design.

Such a series of papers, forming an illustrated repertory of the problems coming before architects in active practice, might fairly be assumed to contain something of interest to most of us, and especially to the younger members of the profession,—those whom your generous offer is more particularly intended to influence.

These "Practical Papers" would present opportunities for illustrating problems in construction, sanitation, and ventilation; devices affecting the comfort and convenience of our buildings; the application of iron to architecture; the concrete and terra-cotta questions, and other matters of which we, as architects, are expected to know something. J. J. L.

MISCONCEPTIONS REGARDING THE THEORY OF COLOUR.

SIR,—I have already stated that my vocation is not to revise the incorrect language of writers upon the theory of light, but the erroneous conclusions that creep into teaching from the use of such language. Sir John Herschel, in a letter to Dr. Ernest Brücke, describes the prevailing opinions about light and colours as "*idola*, which, from a jargon, have fixed themselves into a doctrine." It is the boast of science that it uses precise language. Science always becomes of greater practical utility as it becomes more exact in theory and precise in its language. I know full well how difficult it is, more especially on the subject of colour, to substitute scientific language for the language of our misleading impressions. But because it is difficult, is the greater reason why the difficulty should be conquered.

Mr. Crace, in his last letter, again shows that he has not yet fully comprehended the consequences of admitting that colours are sensations. He speaks of complementary colours when there are none. Colours are but the phenomena, the effects,—the *tertium quid*,—of vibratory action, and the sentient, and utterly passive. If there be complementaries these must be vibrations; but, even then, the vulgar hypothesis of "complementaries" will not hold water if, as believed by scientists, the determinations of Herschel and Helmholtz be correct. For these inquirers affirm that the only three primitive and undecomposable vibrations are those which produce the sensations of red, green, and blue; and we know that those which produce red and green are harmonic without the concurrence of those which produce blue. The vibrations which produce red and green are, therefore, not complementary. The complementary hypothesis, as it is popularly understood, could only be consistently carried out on the old blue, red, and yellow notion, to which Mr. Crace possibly clings. "Complementaries," "primaries," "secondaries," &c., belong to that jargon, as Sir John Herschel terms it, which, though not yet extinct, must ultimately die out, or be used with an entirely different connotation. W. C. T.

*** We are evidently making no way in this discussion, and we must, therefore, here end it for the present.

ASHBURNHAM HOUSE.

SIR,—In your note referring to the above, in connexion with the Society for Photographing Relics of Old London, you mention the staircase, &c., as being the work of Inigo Jones. I and many others have always accepted this tradition; but I see that the *Athenæum*, in a similar notice as to the photographs, says these works are "erroneously" attributed to Inigo Jones. Will some of your correspondents give your readers the benefit of any information they may have of this interesting work?

G. J.

VERMIN.

SIR,—I once abolished bugs from a house where they swarmed, and procured a remarkable freedom from fleas, by the following process:—Every crack and interval in and between timbers I filled up with putty (flooring, skirting-boards, inside closets, &c.), and every crack in the plaster I filled up with plaster of Paris.

Where do the fleas come from? I have known a dead cat in the garden fill the house with them.

J. EDGAR.

Fall of a Mill Chimney at Mossley.—A new chimney at Messrs. Bottomley, Hyde, & Co.'s cotton-mill has fallen. About 40 ft. of the chimney, which was at least 2 ft. 6 in. thick, had been erected. Mr. Abraham Wood, of Stalybridge, was the contractor, and the work was to have been completed in about a week. The cause of the accident was a subsidence of land at the base of the erection. Fortunately no persons were injured.

LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the London and Middlesex Archæological Society was held in the Council-chamber, Guildhall, on Wednesday last, when the chair was taken by the Lord Mayor.

Mr. Alderman Hanson, F.S.A., read "Some remarks upon Sir William Ashurst, who was Lord Mayor of London in the year 1694." After the reading of this paper, the Lord Mayor was obliged to leave, and the chair was then taken by the president of the society, Lord Talbot de Malahide.

Mr. Horace Jones the City Architect, read a paper on the Guildhall which was built shortly after the national building, Westminster Hall, during the reign of the last of the Plantagenet kings. The second building was erected in the twentieth year of the reign of Edward II. The present is the third building. It is 34 ft. wide and 89 ft. in height from the pavement to the roof, the collar beam of which is 29 ft. in length, and was cut from a piece of timber 2 ft. 8 in. square.

Mr. Robert Dicksee, curator of the works of art, gave an account of the various paintings and sculptures.

Sir J. B. Monckton (town clerk) read an account of the charters and early records of the corporation, who possess about a hundred ancient charters and records, the oldest and shortest of which was one given to the City by William I.

In another room Mr. B. Scott (the Chamberlain) showed a very ancient crystal sceptre set with gold, and other articles of interest, and Mr. J. A. Brand, Comptroller, showed a number of very interesting seals, public and private, the earliest dating from the time of Richard I., 1189, the time of the first Lord Mayor. In the museum Mr. J. E. Price, F.S.A., gave some account of the principal antiquities preserved therein.

In the library Mr. W. H. Overall, F.S.A., gave an account of the present condition of the collection of books. There are now some 60,000 works in the library.

After having examined some of the treasures of the library, the company proceeded to the Church of St. Helen, in Bishopsgate-street, where they inspected the tombs of the Crosbys, of Sir Thomas Gresham, and of others. In the evening the annual dinner took place in Crosby-hall, where the chair was taken by General de Haviland, York Herald.

CHURCH-BUILDING NEWS.

Hull.—The foundation-stone of the new Church of St. Philip, Hull, has been laid by the Bishop of Tasmania. The building is being erected on a site lately occupied by a warehouse, and will have frontages to Charlotte-street, Paradise-row, and Mason-street. The site is very irregular in shape, and necessitates a comparatively short nave and special treatment of plan. The church will be placed with its axis north and south (instead of east and west, as usual), the chancel facing Charlotte-street. The plan shows a nave of 66 ft. long by 27 ft. 6 in. wide; a west aisle 16 ft. 6 in. wide; and a chancel 31 ft. long by 23 ft. 3 in. wide. The church will be of lofty proportions, the ridge of the nave roof being 58 ft., and that of the chancel 50 ft., above the floor. The building will be faced externally with red stock bricks, with stone dressings, and will be roofed with green slates. The interior will be plastered, but the arches and string-courses will be of red brick. The nave will be lighted by two lofty two-light traceried windows in the north gable, with a traceried circle over; by seven long lancet windows in the east wall; and by clear-story lancet windows on the west side. The nave will be divided from the aisle by an arcade of four bays. The chancel will be terminated by a semicircular apse. A bell-turret will be carried up over the porch at the south end of the nave (facing Paradise-row), and roofed with a high-pitched hipped roof, with wrought-iron cresting and cross on the ridge, which will be 75 ft. above the street. The clergy and choir vestries will be at the south end of the chancel. Accommodation will be provided for 450 persons. The architects are Messrs. Botterill, Son, & Bilson, of Hull, and the whole of the works are being executed by Mr. R. Sargeant, of Wright-street, Hull, the amount of whose contract is 3,488*l.*

Birmingham.—The new church of St. Alban the Martyr, in Conybere-street, has been opened. The church has been erected from the designs of Mr. John L. Pearson, R.A., and has been built by Mr. Shillitoe, of Doncaster. The church is designed in the style which prevailed in this country during the early part of the thirteenth century, freely treated, and adapted to modern requirements. The plan is cruciform, and consists of a nave and aisles, 82 ft. long and 52 ft. wide internally, the width of the nave itself being 23 ft. 6 in.; western narthex, or portico; north and south transepts, 17 ft. wide, opening into the aisles and eastern bay of the nave,—the total length from north to south being 76 ft. The chancel is of the same width as the nave, and 48 ft. long to the extremity of the apsidal termination, and is surrounded by an ambulatory. South of the chancel, and opposite to its three western bays, is a chapel, 30 ft. long and 18 ft. wide. The northern arm of the transept has an eastern aisle, 11 ft. 6 in. wide. East of this, and the width of two bays of the chancel, is the organ-chamber, to the north of which abundant vestry accommodation is provided. South of the western bay of the south aisle is the lower portion of the tower, now carried up some 25 ft., but which is designed to rise about 125 ft., and to have belfry windows, consisting of lancet triplets in two tiers. The lower part of the tower is kept plain, being pierced only with small openings necessary for lights, and ornamented with shallow surface arcading. A low square spire crowns the tower with a cluster of angle-turrets and spire-lights at its base. The total height will be about 170 ft. The cost of this tower will be about 4,000*l.* Internally, the effect of the church is spacious and open, the piers being as light as is consistent with sound construction. The church is groined throughout. The nave is separated from the aisles by arcades of five arches, and eleven arches surround the chancel,—the seven eastern ones being much narrower and more pointed than the others. These arches are about 18 ft. high, with the exception of the two at the crossing, which rise to the full height of the building. The nave, chancel, and transepts are groined at the same height,—viz., 50 ft.; the chancel-arch is but very little below the groined ceiling, just sufficient to mark the separation without interfering with the vista. The clearstory windows are very deeply recessed, sufficiently to allow of a passage-way in front of them over the nave and chancel arcades. The south chapel is entered from the transept by a double arch; it is groined at a height of 23 ft. The peculiar arrangement of the groining at the east end of this chapel is worthy of notice. The church is built of the red bricks of the neighbourhood, but especially made of a smaller size than usual. The walls inside are partially faced with stone and partially with the same red bricks, the more prominent parts and the vaulted ceiling being all of stone. Bath stone is used for all dressings, both inside and outside. The roofs are covered with plain red tiles. The church, so far as completed, has cost about 20,000*l.*, and provides room for about 1,000 worshippers.

Chidcock.—The parish church of St. Giles, Chidcock, has been undergoing renovation for some time past, under the direction of Mr. G. R. Crickmay, the diocesan architect. All, save the chancel part, is now complete. The building is, in the main, Perpendicular Gothic, and consists of nave, south aisle, and porch, north transeptal chapel, chancel, and an embattled tower. When the restoration commenced, the main timbers of the roof were found to have entirely rotted away at the places they rested upon originally in the walls, and, when the lead above was removed, the roof itself fell in of its own weight, happily without any fatal accident, but showing clearly that, instead of supporting, the timbers had actually been supported by the lead! Very fortunate it was that the lead itself was deeply embedded in the walls. The arcade was upwards of 12 in. out of the perpendicular. This has been put straight, a modern vestry has been removed, and the gallery has followed it. Mr. Beer, of Wareham, was the builder. The floors are of Purbeck stone, bordered with black and red tiles supplied by Mr. Carter, of Poole. The chancel arch has been widened and heightened. Four painted windows are the work of Messrs. Lavers, Barraud, & Westlake, of London, and a scheme of subjects has been arranged for the windows throughout the building. The stone-carving and sculptured figures are by Mr. Harry Hems, of Exeter. Mr. Cooper was the contractor's foreman during the works in hand. All is now complete save the chancel, of which designs have been prepared. The church is heated by Porrett's (of Bolton) patent warming apparatus. The expenditure on the works up to the present time is about 1,500*l.*

Haverfordwest.—The Bishop of St. David's reopened the parish church of St. Thomas, in this town, on the 2nd inst., after the addition of an aisle, with organ-chamber, and new vestry and porch on its north side. Other improvements and additions have been made to the church (which, with the exception of the fine tower and a small portion of the north wall of the nave, was rebuilt about twenty-five years ago), including new chancel stalls and fronts, communion-rail, prayer-desk, stone pulpit, chancel-arch, east window filled with Munich glass by Mayer, Porritt's hot-air stove, encaustic tile pavement by Webb, of Worcester, and organ by Vowles & Sons, of Bristol. A large part of the churchyard has also been levelled and drained. The contractor was Mr. W. Reynolds, of Haverfordwest, and the architect Mr. E. H. Lingen-Barker.

Wandsworth.—St. Faith's new parish church is about to be erected at Wandsworth. The building will consist of nave, chancel, north and south aisles, organ-chamber, tower and spire, and vestries beneath the chancel, and will be built of Berkshire pressed bricks, with Box-ground stone dressings. The church will accommodate 800 persons. Plans have been prepared by Mr. John Pitt Bayly, architect, Paddington.

Alverdiscott.—The restoration of the parish church of Alverdiscott, near Barnstaple, has been completed by Mr. Harry Hems, of Exeter. The main body of the church was restored in 1866, but for want of funds the chancel and other parts were not touched. The principal feature in the chancel is the new reredos, the gift of Captain W. A. Deane. It is of stone, and occupies the entire width of the east end of the chancel. The central part is formed of three recessed compartments, resting upon a re-table of red Corsehill stone. The backs of these panels are of the same material. In the central one stands a simple Calvary cross in pure statuary marble. The triple compartments are divided by well-defined buttresses, and surmounted by tracery and carved work. A new three-light painted east window has been put up. It is a memorial to the late Miss Preston, as the inscription records. The subject is "Our Lord in Majesty," and it has been painted by Messrs. Shrigley & Hunt, of Lancaster. The chancel roof has received careful attention. Where the old oak timbers were deficient they have been made good, and new carved bosses have been placed where required. The whole of this roof has been decorated, the panels painted and stencilled, and the bosses gilded. The old carved pulpit has been lowered about 6 in. At the western end of the north aisle a new three-light window, of Bath stone, has been inserted. This is filled with coloured glass.

Chislehurst.—Two sanctuary standards, entirely of wrought iron, undecorated, have just been added to the elaborate fittings of the Church of the Annunciation, Chislehurst. They were designed by Mr. James Brooks, architect, and executed by Messrs. Jones & Willis.

DISSENTING CHURCH-BUILDING NEWS.

Darwen.—The foundation-stone of a Congregational School Chapel has been laid here. The site is in Blackburn-road, and space has been secured for the erection of a building at some future period to be used as a chapel exclusively. The new building, which will be two stories high, is designed in the Gothic style, the material being local stone, faced with selected parpoints. On the ground-floor will be the large school-room, 50 ft. long, 40 ft. wide, and 16 ft. high. At the end of the large school-room will be the infants' school-room, 40 ft. long, 20 ft. wide, with a staircase enclosed, leading to the next floor, where are three class-rooms, and a room to be used for the time being as a minister's vestry. On the first floor will be a large room which will be used at present as a chapel, extending over the school-room and front entrance. It will be 62 ft. long, 40 ft. wide, and 28 ft. high to the ceiling. This room is divided into nave and side aisles by iron columns, having moulded bases and capitals. These columns support the framed principals of the roof. The chapel is calculated to accommodate about 400 people. The plans have been prepared by Mr. Henry Pinchbeck, architect, London. The contracts for the different trades have been let separately to local contractors.

Govan.—The memorial-stone of a new United Presbyterian church at the corner of White and Fairfield streets, Govan, for the Greenfield U.P. congregation, was laid on the 4th inst. The plans of the new church have been prepared by Mr. T. L. Watson, architect, Glasgow. They show accommodation for 600 persons, or, if galleries be introduced, for 800. Of the Gothic style, in one of its more simple types, the church is divided into nave and aisles, but it is without clearstory. There is also a hall, giving accommodation for 300 persons, together with session-house, vestry, &c. The contractors for the work are:—Mason work, Messrs. Gow & Stobo; wright work (without side galleries), Messrs. M. & W. Reid; plumber work, Mr. M. Craig; slater work, Mr. Wm. Darrie; and plaster work, Mr. D. S. Hutcheson. These contracts represent a total sum of 2,200*l.* Including ventilation, gas fittings, furniture, and everything else required for the completion of the edifice, the whole cost will not exceed 3,000*l.*

Halifax.—The memorial stone of a new Primitive Methodist Chapel and school at Greetland Wall Nook, near Halifax, has been laid. Mr. W. H. D. Horsfall is the architect. The buildings are in course of erection by the following contractors:—Masons' work, Mr. Thomas Noble, Greetland; joiners' work, Mr. Ed. Schofield, West Vale; slaters' and plasterers' work, Mr. Jno. Hitchen, Norland; plumbers' work, Mr. J. Stafford, Sowerby Bridge; painters' work, Messrs. E. Whitehead & Co., Sowerby Bridge. The total cost will be about 700*l.*

Walworth.—Walworth-road Baptist Chapel has been re-opened, after re-decoration and other works, which have cost 650*l.*, and have been carried out by Mr. William Sayer, of New Kent-road, under the direction of Mr. J. E. Sears, architect.

Newport-Pagnell.—A new chapel for the Congregationalists has been opened here. It is Early Gothic in style, the materials used externally being red bricks with Bath-stone dressings. The architect is Mr. John Sulman, of London, and the works were carried out by Messrs. Wilford & Son, a local firm, whose contract was for 1,724*l.*

Ross.—The memorial stone of a new Baptist Chapel at Ross, Herefordshire, has been laid. The plans have been prepared by Mr. G. C. Haddon, architect, Hereford. Mr. Kemp, of Ross, is the builder.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Carfin.—The new church of St. Francis Xavier, at Carfin, N.B., has been commenced. The architects are Messrs. Pugin & Pugin, of Westminster.

Glasgow.—The new Franciscan church, which has been in course of erection for a little over a year, was opened on Wednesday, the 1st of June, in the presence of Cardinal Manning. Messrs. Pugin & Pugin, of Westminster, are the architects. It is in the Early Decorated style, severe in treatment, in harmony with the austere rules of the Franciscan order. Mr. John Devlin, of Glasgow, was the contractor, and Brother Patrick, a member of the order, has acted in an efficient manner as clerk of works.

The late Mr. W. Burges, A.R.A.—The will (dated Feb. 15, 1879) of Mr. William Burges, late of No. 9, Melbury-road, Kensington, architect, who died on April 20 last, was proved on the 23rd ult. by Richard Popplewell Pullan, Joseph Henry Christian, and John Starling Chapple, the executors, the personal estate being sworn under 40,000*l.* The testator leaves to the British Museum such manuscripts and antiquities as the authorities may select; to the Marquis and Marchioness of Bute such object of art designed by him as they may respectively select; upon trust for his clerk, Mr. J. S. Chapple, for life, and then for his wife for her life, 4,000*l.*; and legacies to pupils, clerks, and others. Two-thirds of the residue of his real and personal estate are to be held upon trust for his sister, Mrs. Mary Leschallas Pullan, for life, and then for her husband for life; and, subject to such life interest, he gives the said residue to his nieces, Elizabeth Burges and Eleanor Burges.

SCHOOL-BOARD SCHOOLS.

Gateshead.—At a recent meeting of the Gateshead School Board, the contract for the erection of schools on a site adjoining Durham-road was let to Mr. Alexander Thompson for 3,728*l.* These schools are somewhat of a departure from the usual type of Board schools hitherto erected in this district, being designed to meet the growing demand for class-rooms. Accommodation is at present provided for 707 children in three departments, for boys, girls, and infants. The building will be two stories high, and every class will practically have a room to itself. The head-master will, without leaving the main room, have complete supervision of the whole school, thus enabling a considerable portion of the work to be carried on by pupil teachers. Each department will consist (in the case of the boys' and girls' schools) of four class-rooms and one large room for collective purposes, which will be capable of a temporary sub-division, if desired, into two larger class-rooms. Thus both the girls' and boys' school may be said to consist each of six class-rooms of various sizes. All these rooms are so arranged round the two main staircases as to have independent means of ingress and egress. Private rooms for the teachers, cap-rooms and lavatories for the children, and other customary accessories, are provided. The building will be carried out with 20-in. hollow brick walls with 2-in. air cavity. The whole of the walls, including offices and boundary walling, will be faced with Sherburn bricks. The ventilating tubes are arranged to supply a minimum of 800 cubic feet per hour for each child, entirely independent of doors and windows, and without draughts. The amount of the contract includes the caretaker's house and boundary walls. To give the Board a true idea of the ultimate cost per child, the architects have gone carefully into the cost of some contemplated extensions, and find that, provided they are carried out at the same prices as the present contract, the total cost for 927 children will be 4,006*l.*, or 4*l.* 6*s.* 5*d.* per child. The architects are Messrs. Oliver & Leeson, of Newcastle.

Plymouth.—The Mayor of Plymouth has opened the new Palace-court Schools, which have been erected by Messrs. Lapthorne & Goad, contractors, from the designs of Mr. H. J. Snell, architect. The schools have been specially designed for the adoption of "dual" desks. Accommodation is provided for three departments,—boys, girls, and infants,—and each department consists of one principal schoolroom and four class-rooms, besides the necessary offices. The boys' department is on the first floor; the department for the girls and infants occupies the whole of the ground-floor. All the apartments are fitted with Boyle's patent ventilators. They are well lighted, and when the weather necessitates the closing of windows there are ventilators in the window-cills to be opened. Each room contains a slow-combustion grate. On the floor above the boys' department there are apartments for the caretaker of the school, who is thus enabled to live on the premises. Macfarlane's enamelled lavatory ranges have been fitted. The boys' offices are also fitted with a new system of range by Macfarlane. Allowing 8 ft. superficial for each child, the minimum permitted by the Education Department, the schools are capable of accommodating 952 children. The number, however, for which the schools have been passed by the Inspectors of the Department, is 247 boys, 288 girls, and 257 infants,—a total of 792. The area of the entire site is about 12,000 ft., and cost 4*s.* 2*d.* per foot. The main school-room in the boys' department is 49 ft. 6 in. by 22 ft. 6 in., with four class-rooms ranging from 20 ft. to 22 ft. by 18 ft.; the girls' school-room is 68 ft. by 22 ft., with four class-rooms 20 ft. by 18 ft.; the infants' school-room is 30 ft. by 28 ft., with four class-rooms ranging from 22 ft. to 16 ft. by 16 ft., the total giving a superficial area of 7,622 square feet. The expenditure on the site alone has been just 2,600*l.* The cost of building has been 4,527*l.*; the estimated cost of furniture is 400*l.*; architect's commission, salary of clerk of works, and other expenses of superintendence, have absorbed 400*l.*, and incidental expenses 100*l.*, making a total of 8,027*l.* The cost per head has been put down at 5*l.* 5*s.* for the building, and 2*l.* 13*s.* for the site, making altogether 7*l.* 18*s.* The average of all the schools constructed by the Board is 7*l.* 17*s.* per head.

Halifax.—The proposed Higher Board School, which is to be erected from the plans of Mr. Richard Horsfall, architect, George-street, will be situate between Prescott-street and Oxford-road, it having been proposed to make a new street connecting the two roads, along which the main front of the building will face, the frontage being towards Beacon-hill. The total length of the building will be 209 ft. by 66 ft. Owing to the narrowness of the site, considerable difficulty was experienced in obtaining the proper accommodation. The basement is devoted to boys' and girls' covered playgrounds, cooking kitchen, laboratory, chemical stores, heating apparatus, and other office arrangements; and the keepers' residence, comprising two bedrooms, living-room, and large cellar. The playgrounds can be approached under cover. The length of the laboratory is 26 ft. 8 in.; and the cooking kitchen, in which it is proposed to give lessons in cookery in connexion with the girls' department, will measure 26 ft. 3 in. by 24 ft. 8 in. The ground-floor proper will be devoted to the general educational purposes, and is divided in the centre by a corridor 204 ft. long by 10 ft. 6 in. wide, on each side of which are arranged the class-rooms, twelve in number, the sizes of which are 22 ft. by 20 ft., and 24 ft. 8 in. by 22 ft. A novelty in connexion with these class-rooms is that each room is provided with its separate cloak-room, immediately adjoining and opening into the class-room, thus enabling the teacher to have perfect control over the distribution and safe keeping of the wearing apparel, and also preventing the confusion which has hitherto been experienced when one cloak-room is provided to accommodate the whole of the departments. The first floor is set apart for an assembly-hall, 109 ft. by 32 ft., having retiring-rooms at each end, 20 ft. by 18 ft., and including a book store for each department. There is somewhat of novelty in the manner in which the assembly-hall is made, being formed in the roof of the building, which is lighted by a clearstory, very similar to the plan adopted in church architecture, the walls being wainscoted with panelled framing, to the height of 8 ft. The part of the building that in a church would be the side aisles is in this case devoted to the class-rooms. The large room is approached by a separate staircase at each extremity of the large hall, which enables the boys and girls to enter and leave at opposite ends. The style of the building is "Queen Anne." The estimated cost is 4,700*l.*, exclusive of the playgrounds, boundary walls, &c. The building will be heated by a low pressure hot-water apparatus.

STAINED GLASS.

Westminster Chapter House.—It is proposed to complete Sir Gilbert Scott's design for the restoration of the Chapter-house. The six great windows, with one smaller window over the entrance, are to be filled with stained glass representing the history of England as associated with Westminster Abbey during the six centuries in which the Chapter-house was connected with the historical interests of the country. The cost will be 6,000*l.* The first of these windows, which is already in progress, will be supplied at the cost of the Dean of Westminster, and it is hoped that the public will subscribe the cost of the other windows, as the Government, the owners of the building, have refused to defray the cost of the windows, which will, we understand, be executed by Messrs. Clayton & Bell.

Heptonstall.—St. Thomas's Church has just received an addition in the shape of a stained glass window, which has been erected at the expense of Mr. John E. Greenwood, Glen House, Cragg, in memory of his wife. The window has been executed by Messrs. Mayer & Co., Munich.

Handsworth.—A memorial window has just been placed in the south aisle of Handsworth parish church. Messrs. Burliston & Grylls, of London, have executed the work, from designs suggested by the Rev. W. Randall, the rector. The window consists of three lights, on which are painted, in the centre, "The Raising of Lazerus"; on the left, "The Sisters of Bethany, —Mary at the Feet of Jesus"; and on the right, Christ, after His Resurrection, giving a commission to Mary Magdalene to go and tell His Disciples of His Ascension." Medallions of Faith, Hope, and Charity fill up the lower parts of the window.

Burnham (Essex).—A three-light window has just been placed in the south side of the chancel of the parish church to the memory of the late Mr. and Mrs Hawkins, of Cupola House, by Messrs. Clayton & Bell, of Regent-street. The subject represented is that of the Ascension. The ascending figure of the Saviour is surrounded by a choir of angels, while grouped beneath are the eleven apostles. This is the fourth memorial window recently placed in the church.

Matlock.—Two stained glass windows have just been placed in the north aisle of the parish church, to the memory of the late Mrs. Greaves, of The Rocks, Matlock Dale, and of the late Mr. Brook Leacroft, of Matlock. In the first is the figure of Christ, as the "Good Shepherd." The second window is from the well-known picture of Holman Hunt, "Christ, the Light of the World." The subject has been treated by Messrs. Powell, of Whitefriars, London.

Swaffham.—The parishioners of Swaffham have just presented to the parish church a window of stained glass, executed by Messrs. Heaton, Butler, & Bayne, of Garrick-street, Covent-garden. The window is on the north side of the church.

Miscellanea.

Tenders for Instalments of Works.—At a meeting of the Surveying Committee of the Bath Town Council on the 13th inst., a communication was received from Mr. R. Mann, of Charlotte-street, complaining of the action the committee had taken with respect to the wood-paving of Milsom-street, in advertising for tenders for the same. Not long ago, he said, in response to their advertisement, in conjunction with Mr. Welch, he tendered for laying Union, Burton, and Milsom streets with wood. He was asked to do the two former streets and consented. Somewhat unfairly the committee were now asking for tenders for Milsom-street. In all fairness, he urged, he was entitled to the offer of the work whenever they wished it to be done. After mentioning that it was the custom of the trade that when work was once tendered for the estimates were held to, he pointed out that his price, having been already before them, it was of course well known to others, who had simply to go a little below to take the job.—A short discussion ensued, some members holding with Mr. Mann that he was entitled to the work in Milsom-street, others contending that the committee were acting strictly within their right in soliciting fresh tenders. In answer to questions the Clerk stated that the advertisement was for the three streets, but the contract eventually entered into was for the two (Union and Burton streets) only. The contract was sent for, and also the minute of the meeting at which it was considered. The terms of the latter were "Resolved that the tender of Mr. R. Mann be accepted with respect to Union and Burton streets only." After the reading of this the committee decided to consider the tenders received in answer to the advertisement lately inserted. These were six in number, each tenderer quoting prices for carrying out the work in two different ways. Eventually the committee accepted the tender of Mr. J. T. Welch, of Twerton-on-Avon, at 9*s.* 10*d.* per yard.

The Condition of the Regent's Canal.—Dr. Danford Thomas, the coroner for Central Middlesex, has received information of the discovery in the Regent's Canal, near Albert Bridge, of the body of a female, which had been found floating by the police. They had called for the assistance of Dr. Job Collins, who said that life was extinct, and that the body had not been in the water very long. He could not venture to say that the death was simple suffocation by drowning, for the fact was that the waters of the canal were impregnated with animal refuse to such an extent that not only was the canal a nuisance to the inhabitants residing near it, but was positively dangerous to any one accidentally falling in, for he or she would suffer, if not die, from the poisonous state of the water.

Building Accidents in Rome.—A correspondent from Rome says a question was asked in the Chamber last week respecting the repeated accidents to workmen on buildings in course of construction. Signor D pretis agreed in soliciting an early discussion of the Bill for the prevention of such occurrences.

The Artists' Benevolent Fund holds its seventy-second anniversary dinner on the 2nd proximo, Mr. Mundella, M.P., in the chair.

Artisans' and Labourers' Dwellings.—The Select Committee of the House of Commons appointed to consider the working of the Artisans' and Labourers' Dwellings Improvement Act, 1875, and the Amending Act of 1879, with the view of considering how the expense of, and the delay and difficulty in carrying out, these Acts may be reduced, and also of inquiring into any causes which may have prevented the reconstruction of dwellings for the artisan class to the full extent contemplated and authorised by these Acts, and of recommending such amendments as may be most expedient for carrying out the full intention of these Acts; and also to consider the working of the Metropolitan Streets Improvements Acts, has commenced its inquiry. Sir R. Cross presided, and the other members of the Committee were:—Mr. Courtney, Lord Emlyn, Mr. Hastings, Sir H. Holland, Mr. W. Holms, Mr. Leamy, Sir J. M'Garel Hogg, The O'Donoghue, Sir W. Ridley, Mr. Torrens, Sir S. Waterlow, Mr. A. Balfour, Mr. Brand, Mr. Brodrick, Mr. Bryce, Mr. F. Buxton, and Mr. Cropper. In opening the proceedings Sir R. Cross said he proposed to call the medical officers of those districts where schemes had been suggested and carried out by the Metropolitan Board. Mr. G. A. Rogers, medical officer for the Limehouse district, gave evidence with reference to the Nightingale-lane scheme and the Brown Bear-alley scheme. Dr. Tidy, Medical Officer of Health for Islington, gave his evidence on Monday.

South Central Africa.—Mr. F. C. Selous, whose achievements as a hunter of elephants and other big game have already been publicly mentioned, has communicated to the Transactions of the Royal Geographical Society two papers, "Journeys in the Interior of South Central Africa," and "Recent Explorations in Mashunaland," which include sketch-maps of his route, and form a distinct addition to our geographical knowledge of the interior. Mr. Selous, who has shown remarkable enterprise and determination in his explorations, is preparing, we are glad to hear, a popular account of his travels and adventures, which will doubtless soon find a publisher.

The Sacred Capital of the Hittites.—Lieut. Conder, R.E., the officer in charge of the Expedition for the Survey of Eastern Palestine, while waiting at Beyrout for the arrival of his instruments, has made a short journey into the north of Syria. He visited Hums (where he found a Greek inscription), Kalat-el-Hosn, Tripoli, Baalbec, and other places. He announces that he has found on the shores of Lake Kades, an almost unvisited lake, south of Hums, through which the river Orontes flows,—the "sacred capital of the Hittites." He promises further particulars by an early post, as soon as he gets his notes together. The Hittites were defeated and their city "Ketesh" destroyed by an Egyptian king, about 1340 B.C.

Boiler Explosions.—Models greatly assist in explaining the effects and causes of boiler explosions. A selection from the numerous models, used at inquests or scientific meetings, by Mr. E. B. Marten and other officers of the Midland Steam Boiler Inspection and Assurance Company, have been placed within the reach of those engineers having the care of boilers in various centres of industry in England, and also in Europe and America. They are now placed for a few months in the basement of Mr. Marten's office at 4, Storey's Gate, Great George-street, Westminster, and may be seen, on application there, either during the day or in the evening.

A large new Clock has been placed in the parish church at Ashover, Derbyshire. It strikes the hours chimes the Cambridge quarters on four bells, and shows time on a skeleton dial, 4 ft. 6 in. diameter. The work has been carried out by Messrs. Smith, Midland Steam Clock Works, Derby. A new clock has been erected in the new cemetery, Intake-road, Sheffield. It strikes the hours upon a 17 cwt. bell, and is also from Messrs. Smith.

International Medical and Sanitary Exhibition.—The committee are sparing no pains to promote the success of this exhibition; and, to judge from the admirable plans which have been issued to exhibitors, the collection of medical and sanitary appliances, to be opened under the auspices of the Parkes Museum of Hygiene at South Kensington on July 16th will be of national importance.

Artists' General Benevolent Institution. The Council acknowledge the receipt of 50*l.* from Admiral Carr-Glyn, under the will of the late Miss Adelaide Neilson.

Dangerous Employments.—The Court of Appeal, sitting at Westminster on the 16th inst., decided the case of "Dudley *v.* Brown," one of some importance to persons engaged in occupations involving personal risk. The action was brought by a workman of the defendant employed, with several others, under a foreman, to load a ship, lying in the West India Docks, with iron. The iron was lowered by chains worked by a winch, and the chains were fetched by the men from a donkey-engine barge when required. A chain broke, and plaintiff was knocked down, and severely injured by the falling metal attached to the chain. He recovered damages from his master, the defendant, at the trial, before Mr. Justice Stephen, on the ground that defendant's foreman knew of a defect in the chain; and an appeal by the defendant to the Divisional Court was unsuccessful. It was now argued that the foreman was a fellow-workman of the plaintiff; that the defendant had not provided the chain, and was not liable. Their lordships allowed the defendant's appeal, Lord Justice Bramwell suggesting that the men should themselves use due caution, and Lord Justice Brett being of opinion that the foreman was not a vice-master, but a fellow-workman.

Framing Specifications.—An esteemed correspondent writes,—I see the Architectural Association had under consideraion the other day the question of classes for construction, drawing up specifications, &c., and it may be worth while to mention that they would find Professor Donaldson's "Handbook of Specifications" useful as a text-book and suggestive of topics.

Messrs. Hayward Tyler & Co. are giving attention to improving the style of ornamentation for sanitary earthenware. Their new registered "Blue Dragon" pattern, copied from Oriental china, is applicable to wash-basins, valve-closet basins, Hayward Tyler & Co.'s new hopper basins, &c. It is printed in Oriental blue, and covers the surface very satisfactorily.

Not Dear.—At a joint meeting of the Town Council and Trustees of the Great Torrington Town and Alms Lands, held on Thursday in last week, Mr. W. C. Medland was unanimously elected surveyor to the said Trustees, at a salary of 20*l.* per annum.

The City Memorial to Lord Beaconsfield.—The City Lands Committee, who are about to erect a memorial in the Guildhall to the late Lord Beaconsfield, have decided to intrust the work to Mr. R. C. Belt, having chosen his bust after inspecting various others.

Royal Polytechnic Institution.—Mr. W. Mattieu Williams, F.R.A.S., author of "The Fuel of the Sun," "Through Norway with a Knapsack," &c., has been appointed to the management of this Institution, and commences his duties forthwith.

Fall of a Bell.—Whilst being rung in a wedding peal, the big bell in the Minster tower, Wimborne, fell, but, luckily for the ringers, got wedged in between two beams in the first floor it came to. The fallen bell is more than a ton and a half in weight.

Melbourne Exhibition. — A first-class award has been given to Messrs. Craven, Dunnill, & Co., of Jackfield Works, Ironbridge, Shropshire, for encaustic and decorative tiles.

Art Gallery for Birmingham.—The foundation-stone of the new Corporation Art Gallery is fixed to be laid by the mayor of the borough, Mr. R. Chamberlain, on July 19.

Masons' Wages at Ayr. — The master masons of Ayr have agreed to concede the demand of their men for an advance in their wages of ½d. per hour. The wage is now 6½d.

The Royal Academy Conversazione is fixed to take place on Wednesday, July 6th.

TENDERS

For the erection of five houses and shops in the Kentish Town-road, for Mr. W. W. B. Rodger. Messrs. Wm. Wallace & Flockhart, architects. Quantities supplied by Mr. Frederick Thomson:—

E. White	£4,940 0 0
Macey & Sons	4,915 0 0
J. R. Hunt	4,622 0 0
E. Toms	4,436 0 0
P. S. Robertson	4,421 0 0
Dowsing & Sons	4,38) 0 0

For the erection of school-chapel at Masham, Derbyshire, for the Bishop of Nottingham. Mr. C. G. Wray, architect. Quantities by Messrs. Linsdell & Giffard:—

Trussell	£890 10 0
H. Smith	882 13 6
H. Slater	832 15 6
Lilley & Sons	825 0 0
Law & King	811 0 0
W. Smith	799 0 0
Beckworth & Sons (accepted)	776 0 0

For the erection of drying lofts and sheds at Petrockstowe, North Devon, for Messrs. G. & C. Adams. Mr. W. C. Medland, architect:—

Handford & Sheppard	£157 0 0
Grant (accepted)	148 10 0

For making up the Grove-road at Wanstead, Essex:—

J. Cardus, Acton	£390 0 0
J. Richards, Wanstead	256 0 0
G. G. Rutty, Bromley-by-Bow*	199 0 0
J. Jackson, Upton	197 9 0

* Accepted.

For new billiard-room and additions to premises, for the North London Working Men's Club and Institute, Collier-street, Pentonville. Mr. Sheppard, architect. Quantities not supplied:—

Bridgman	£266 0 0
Davey	230 0 0
Weaver	198 10 0
Aylett	133 0 0
Allard	129 0 0
Snow (accepted)	128 0 0

For villa residence at Buckhurst-hill, for Mr. W. Guppy:—

Vigor, Poplar	£1,690 0 0
Harper, Hackney	1,483 0 0
North Bros, Stratford	1,405 0 0

For new lodge and approaches to Blenkinsopp Hall, Haltwhistle, for the Trustees of the late Mr. Edward Joicey. Mr. William Glover, architect, Newcastle-upon-Tyne:—

Walter Scott, Newcastle	£2,419 16 7

For pile-driving, &c., required in the extension of Ballast Bank, Portmadoc Harbour. Mr. Thos. Roberts, engineer:—

Davies, Waunfawr	£812 0 0
Morris, Carnarvon	477 0 0
Pritchard, Portmadoc	430 0 0
Owen, Portmadoc	430 0 0
Hughes, Portmadoc	424 0 0
Greene, Portmadoc	423 0 0
Williams, Carnarvon	416 0 0

For alterations at the Park tavern, Tollington Park, for Mr. Anderson. Mr. John Viney, architect:—

Marr (accepted)	£460 0 0

For finishing houses at North Kensington, for Mr. E. P. Landon and Mr. Geo. H. Tatham, in accordance with the original contract. Messrs. Ebbetts & Cobb, architects:—

Cowland Bros.	£347 0 0
J. Williamson	280 0 0
T. Handover	230 0 0
Langler & Penthiham	208 10 0
Steel Bros. (accepted)	190 0 0

For three houses, Holmesdale-road, Bromley, Kent. Mr. John Sulman, architect:—

Smith	£3,353 0 0
Taylor & Son	3,200 0 0
Jones	3,187 0 0
Arnaud	3,116 0 0
Knight	3,114 0 0
Crossley	2,989 0 0
Smith	2,847 0 0
Balding	2,773 0 0

For rebuilding premises, Watling-street. Messrs. Ford & Hesketh, architects:—

Patman & Fotheringham	£3,509 0 0
T. H. Adamson & Sons	3,430 0 0
Simpson & Son	3,407 0 0
B. Conder	3,364 0 0
Peto Brothers	3,348 0 0
W. Brass	3,321 0 0
E. Lawrance	2,297 0 0
Ashby Brothers	2,196 0 0
Perry & Co.	2,072 0 0
Scrivener & Co. (accepted)	1,898 0 0

For various repairs to houses at Kentish-town, for Mr. F. W. Rowney. Messrs. Ebbetts & Cobb, architects:—

Steel Bros. (accepted)	£144 7 6

For alterations, additions, and improvements to school buildings, for the Nettlebed School Board, Oxon. Messrs. Morris & Stallwood, architects:—

J. Walter	£975 0 0
C. Clements	959 0 0
Hardy	935 0 0
Holly & Butler	897 10 0

For new bank at Brentford. Mr. Henry S. Legg, architect:—

	Bank.	Fittings.
Adamson & Sons	£2,833	£115
W. Brown	2,700	120
C. F. Kearley	2,630	140
T. Nye	2,522	98
F. Taylor	2,502	99
T. Beauchamp	2,497	80
A. & B. Hansom	2,490	110
G. Gibson	2,455	90
T. Brunsden	2,418	115

For the enlargement of the hall and other additions to the Royal Masonic Benevolent Institution, Croydon. Mr. Robert Griggs, architect:—

E. Kerry	£1,400 0 0
J. Lingell	1,296 0 0
M. Taylor	1,237 0 0
J. Holliday	1,147 0 0
J. Anley (accepted)	1,093 0 0

For house and offices in Sandal-road, New Malden. Mr. Henry W. Beale, architect. Quantities not supplied:—

Goddard & Sons, Farnham	£1,679 0 0
Falkner, London	1,487 0 0
Worman, New Malden	1,450 0 0
Rice,* Stockwell	1,442 0 0

* Accepted subject to reductions.

For alterations and additions to a dwelling-house and shop, Torrington, North Devon, for Mr. E. Barrett. Mr. W. C. Medland, architect:—

Grant	£147 0 0
Handford & Sheppard (accepted)	140 0 0

For the erection of pavilion and south-west entrance-lodge, together with gates and fencing, to the Abbey Park, Leicester. Mr. J. Tait, architect:—

Bass	£2,319	16	9
Barnett	2,082	1	0
Hutchinson & Son	2,066	0	0
Gilbert & Pipes	2,039	10	0
Major	2,020	7	0
Elliott & Son	2,006	4	0
Jewsbury	2,000	0	0
W. H. Kellett	1,958	15	0
H. Herritt	1,957	15	0
Stirk	1,950	7	9

For the erection of a Wesleyan Chapel, Rodney-road, New Kent-road. Mr. Chas. Bell, architect. Quantities by Mr. H. Lovegrove:—

	Red Bricks.	Stocks.
Niblett	£4,774	£4,724
Drake	4,747	4,747
Goad	4,723	4,723
Castle	4,698	4,698
Woodward	4,600	4,567
White	4,600	4,600
Downs	4,559	4,509
Batley	4,500	4,475
Eldridge	4,490	4,420
Tyerman	4,400	4,400
Higgs	4,396	4,366
Marsland	4,391	4,351
Tarrant	4,963	4,213
Johnson	4,289	4,222
Gregar*	4,137	3,987
Hickinbotham	4,087	4,087

* Stock facings accepted.

For new stables at Walthamstow, for Messrs. B. M. Tite & Sons. Quantities supplied by the architect, Mr. Peter Watkins:—

	Building.	Paving.
Conder	£579	£123
Scrivener & Co.	537	135
Beale	515	130
Reed	515	126
Crabb	490	147
Pritchard (accepted)	525	95

For the erection of Sailors' Rest and adjoining shop in Commercial-road, Portsmouth, Hants, for Miss Weston and Miss Wints. Messrs. Davis & Emmanuel, architects. Quantities supplied by Mr. H. P. Foster:—

R. H. Roberts, Portsmouth	£5,395	0	0
W. Ward, Portsmouth	5,013	0	0
W. R. & O. Light, Portsmouth	4,699	0	0
G. Burbidge, Portsmouth	4,555	0	0
T. C. Cooper, Portsmouth	4,180	0	0
H. & W. Evans, Portsmouth	4,100	0	0

For erecting residence, Bromley, Kent, for Mr. R. W. Perkins. Mr. Geo. Sherrin, architect. Quantities by Mr. Chas. B. Blomfield:—

J. & J. Greenwood	£3,970	0	0
Balding	3,861	0	0
McLachlan & Sons	3,789	0	0
Payne	3,770	0	0
Crossley	3,744	0	0
Grover	3,743	0	0
Roberts Bros.	3,708	0	0
Falkner	3,696	0	0
Syme & Duncan	3,658	16	0
Jerrard (accepted)	3,428	0	0

For the erection and completion of St. Christopher's Industrial Dwellings, Barrett's-court, Wigmore-street. Contract No. 2. Mr. E. Hoole, architect:—

Henry & Wallace	£8,150	0	0
Lathey Bros.	6,417	0	0
Yardley & Sons	6,180	0	0
F. Higgs	5,525	0	0
W. Smith	5,377	0	0
Jas. Holloway	4,962	0	0
S. Harradine (accepted)	4,511	0	0

For two semi-detached residences, Willoughby Park-road, Tottenham, for Mr. E. Ambler. Mr. C. H. Coalville Smith, architect:—

J. Bell	£1,375	0	0
Sharp & Everard	1,208	0	0
Jarvis & Sons	1,180	0	0
F. Bradford	1,160	0	0
Reduced Estimate.			
F. Bradford	985	0	0
Jarvis & Sons (accepted)	975	0	0

For rebuilding No. 25, Goodge-street, Tottenham-court-road, for Mr. Carpani. Mr. Josiah Houle, architect. Quantities by Mr. C. G. Mumby:—

Perkins	£1,331	0	0
Morter	1,183	0	0
Heath	1,138	0	0
Langmead & Way	1,098	0	0
Wilson & Exton	1,093	0	0

For alterations and additions to Nos. 3, 4, 5, and 6, Great James-street, Bedford-row, for Mr. F. Walters. Mr. C. H. Flack, architect. Quantities not supplied:—

Young, Cochrane, & Fraser	£2,100	0	0
Chapman	1,993	0	0
Wilson & Exton	1,969	0	0
Killby	1,958	0	0
Axford	1,947	0	0
Scott	1,753	0	0

For alterations at the Orchard tavern, Starch-green, Hammersmith, for Mr. Johnson. Mr. H. J. Newton, architect:—

Gill	£657	0	0
Gibbs & Flew	544	0	0
Wood (accepted)	498	0	0
New Counter.			
Warne	£126	0	0
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For roads, 15-in. sewers, and fencing, at Chiswick. Mr. H. Curry, architect:—

Adamson	£1,948	0	0
R. & J. Neal	1,590	0	0
Jas. Neal	1,589	0	0
Neave & Son*	1,480	0	0
Nowell & Robson	1,350	0	0

* For 12-in. pipe only.

For alterations, &c., to "Homeside," Kenley, Surrey, for Mr. A. Johnston. Mr. W. Blease, architect:—

W. Whiteley, Westbourne-grove*	£286	0	0
Two Wainscot Bookcases.			
B. Cook, Stonecutter-street*	83	13	0

* Accepted.

TO CORRESPONDENTS.

"Quantity Surveyors" (a number of letters on this subject shall have consideration next week).—R. T (what paste is used?).—J. W. (should take an opinion on the spot. Several points would have to be considered).—A. G. (windows that have existed twenty years cannot be interfered with by next owner).—E. M.—R. S. S.—H. C.—Mr. F.—C. G. W.—W. C.—H. S.—Dr. S.—H. L.—S. C.—F. W.—W. G.—H. P. F.—W. & R.—W. B.—J. & W.—L. A. F.—J. S.—H. J. N.—J. H.—G. S.—H. & Co.—W. H.—C. P.—S. R. E.—W. Y. B.—J. L.—J. M. & S. S.—W. G. S.—E & C.—F. T.—J. S.—H. S. L.—R. M.—R. G.—T. R. S. S. & W.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

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